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PUBLISHED WEEKLY BY THE PETROLEUM PUBLISHING COMPANY AT TULSA, OKLAHOMA

DECEMBER 9, 1937 VOL. 36, NO. 30

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SUBSCRIPTIONS: United States, 1 year, $6.00; 6 months, $3.00. Elsewhere, 1 year, $7.00; 6 months, $3.50. SINGLE COPIES: 20 cents. Special numbers, purchased from publisher after issue date, 50 cents each. Any back copy over 1 year old, 50 cents.

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View of one of the Holland Tunnel's twin tubes caught by a photographer during a lull in the night traffic. Constructed at a cost of approximately $50,000,000, this 1.75 mile-long Tunnel, connecting New York and Jersey City, is considered one of the world's outstanding engineering feats. The Tunnel proper consists of two steel and concrete tubes (such as pictured here) each providing for two lanes of one-way traffic. The Tunnel is designed for a capacity of 45,000 vehicles daily.

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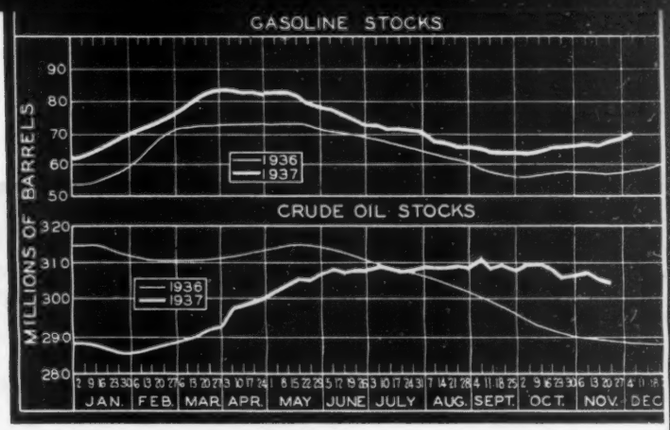


Refiners in Need of Better Price

CRUDE oil production in the United States last week dropped to approximately the same levels that prevailed nine months ago. The decline of 188,163 barrels daily for the past two weeks represents a drop of 348,486 barrels daily from the peak week of August 28 and means that present output is approximately 100,000 barrels daily under the estimated demand of the Bureau of Mines for December.

CRUDE PRODUCTION *3,386,907 barrels daily average—down 39,273 barrels.*

CRUDE STOCKS *304,324,000 barrels as of November 20—down 1,284,000 barrels.*

GASOLINE STOCKS *70,193,000 barrels as of December 4—up 1,649,000 barrels.*

REFINERY RUNS *3,230,000 barrels daily week of December 4—down 95,000.*

While there are a few weak spots in the crude production, principally in states which have not done their full share in the seasonal curtailment program of the past few months, the national crude outlook is definitely improved. Output has been reduced to less than seasonal requirements, thus permitting a few buyers to liquidate inventories which they were forced to accumulate earlier in the year. Expended budgets have brought some curtailments in drilling activities over the past month, but plans for next year point to renewed activity starting January 1.

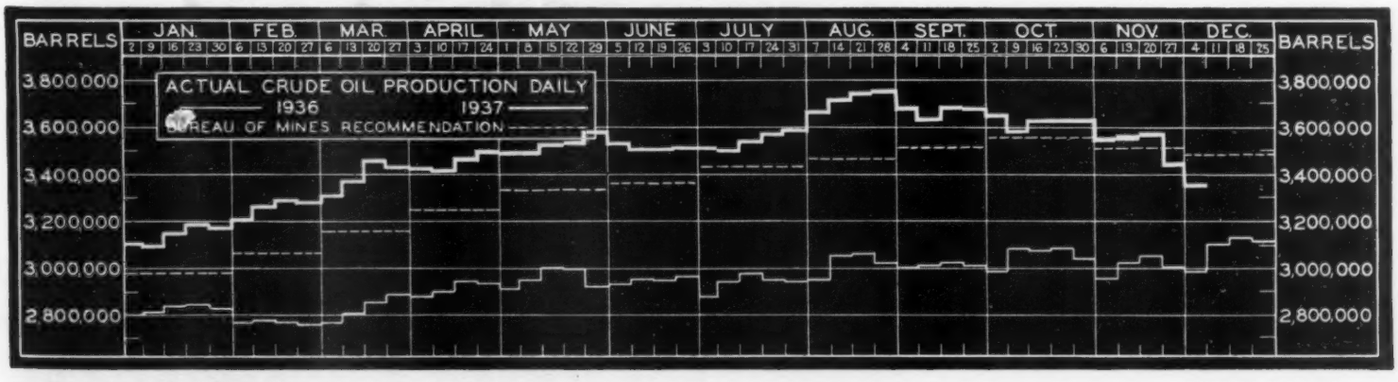
The most pressing need at this time is a recovery in the tankcar gasoline market which will bring refinery revenue in line with posted crude schedules and end the threat of lower price levels for the entire industry. The comparative situation in Oklahoma (Group 3) is indicative of conditions in other parts of the country. The tankcar price on regular-grade gasoline in Oklahoma has dropped 1 cent per gallon in the past six months including the one-eighth cent decline effective the first of this week. To the refiner getting a yield of 56 per cent gasoline or 23½ gallons per barrel refined, this means a decrease in plant revenue of 23.5 cents for every barrel run through his plant. To this can be added about 2 cents per barrel representing loss in per barrel revenue due to the lower prices for residual fuel oils, the other weak product of the refinery market. The price levels for kerosene, furnace oils and gas oils are about the same as they were in early June.

The position of individual refiners with different type plants would vary from this average condition which indicates that refinery revenue with the same posted crude schedules in the Mid-Continent has decreased 25 cents per barrel. The position of the East Texas refiner in general is not as favorable as that of other Mid-Continent refiners owing to the relatively high posted prices prevailing for East Texas crude. Those familiar with conditions express the opinion that the purchase of a few hundred extra cars of gasoline at scattered points in the Mid-Continent over the rest of the year would assure the needed improvement in spot quotations.

Daily Average Production for Week

	Dec. 4 1937	Bur. Mines Dec. est.	Dec. state allowables	Nov. 27 1937
Oklahoma City	114,375	.....	.....	125,575
Fitts	82,225	.....	.....	80,250
Remainder of state	359,500	.....	.....	362,000
Total Oklahoma	556,100	588,800	550,500	567,825
East Texas	416,898	.....	.....	416,050
West Texas	190,050	.....	.....	188,248
North Central Texas	105,800	.....	.....	106,200
Texas Panhandle	67,699	.....	.....	72,798
East Central Texas	91,400	.....	.....	100,497
Gulf Coast Texas	322,700	.....	.....	329,100
Southwest Texas	109,797	.....	.....	109,050
Total Texas	1,304,344	1,399,800	1,375,046	1,321,943
North Louisiana	74,870	.....	.....	74,935
Gulf Coast Louisiana	171,400	.....	.....	167,750
Total Louisiana	246,270	244,000	253,975	242,685
California	700,000	679,400	679,400	702,000
Kansas	168,775	186,000	176,700	179,300
Arkansas	44,110	33,900	.....	45,430
Eastern Fields	132,400	126,200	.....	132,200
Michigan	53,748	51,800	.....	54,892
New Mexico	104,850	104,100	107,600	104,810
Rocky Mountain area	76,310	77,300	.....	75,095
Total United States	3,386,907	3,491,300	.....	3,426,180

Decrease 39,273 bbls. daily.



Kendall Refining Co. plant at Bradford, Pa.

Pennsylvania Price Cuts Reflect Excess Supplies

By J. P. O'DONNELL

OIL CITY, Pa., Dec. 6.—While the oil industry as a whole is casting apprehensive glances at the Pennsylvania Grade crude oil region and wondering if the region's hitherto acknowledged leadership in lubricating oils is crumbling, the region itself is trying to reconcile an approximate 10 per cent increase in the demand for those oils over the past 12 months with the lowest crude oil prices in two years and bright stock prices on a parity with Mid-Continent bright stock prices for the first time in more than a decade.

Leaders in the Pennsylvania region find the answer simple, the remedy difficult and the experience exceedingly expensive.

The answer, they find, is in an overproduction both of crude oil and refined products.

As possible remedies they suggest an increase in crude oil storage facilities, more general adoption of ratable contracts or control of operations, by both refiners and producers, along lines indicated by current statistics.

A glance at available statistics readily reveals that overproduction of crude and refined oils exceeding even an increased demand is chiefly responsible for the decline in Pennsylvania prices.

According to statistics of the U. S. Bureau of Mines, the indicated demand for Pennsylvania Grade crude oil for the first nine months of 1937 was 21,777,000 bbls. against an indicated demand of 20,133,000 bbls. for the corresponding period of 1936. This was an increase of slightly more than 8 per cent.

The same source reveals that total production of Pennsylvania Grade crude oils for the first nine months of this year was 22,348,000 bbls. against a total production of 19,983,000 bbls. for the corresponding period of 1936. This was an increase of almost 12.3 per cent or more than 4 per cent above the increase in demand.

In the first three quarters of the current year production has exceeded demand by 571,000 bbls. an excess of 2,091 bbls. daily for that period. By way of contrast, production in the first three quarters of 1936 was 150,000 bbls. under demand, an underproduction of 547 bbls. per day.

In 1936 the price of crude oil (Bradford field) opened at $2.30 per barrel and closed at $2.57 per bbl. In 1937 the price opened at $2.57 per barrel and is now down to $2.20 per barrel.

Statistics compiled by the National Petroleum Association reveal a similar condition in the refining end of the Pennsylvania industry. Despite an overall increase of approximately 10 per cent in shipments of lubricating oils, stocks, like those of crude oil, have risen while prices have fallen. Demand for Pennsylvania steam refined and bright stocks during the current year has been the heaviest in the years for which comparative statistics are available. While the same condition is not true of Pennsylvania neutrals, demand for them has shown no recession from last year.

Comparative prices of Pennsylvania lubricating oils at the beginning of 1937 and now follow:

	Dec. 2		Jan. 5	
Bright Stock—				
25 pour test	16	16½	21	21½
Neutrals—				
150 vis., 25 pour	16½	17	19½	20
180 vis., 25 pour	19	19½	22	22½
200 vis., 25 pour	18½	20½	23	23½
Steam Refined—				
600	8	9½	14	14½

One of the reasons given for the rapid decline in the Pennsylvania prices is lack of sufficient crude oil storage. This condition, several operators point out, prohibits the region from accommodating increasing production of crude oil in the event of a sudden curtailment in demand or, as in the case this year, in the event of high production in anticipation of a greater demand than that which materialized.

These operators cite several instances in which pipe lines have abandoned storage terminals and instances in which refineries are erecting additional storage to accomodate crude oil in slack periods instead of processing it as they must do now.

Another possible remedy which some leaders advocate is the general adoption of ratable contracts and cite numerous arguments in favor of this

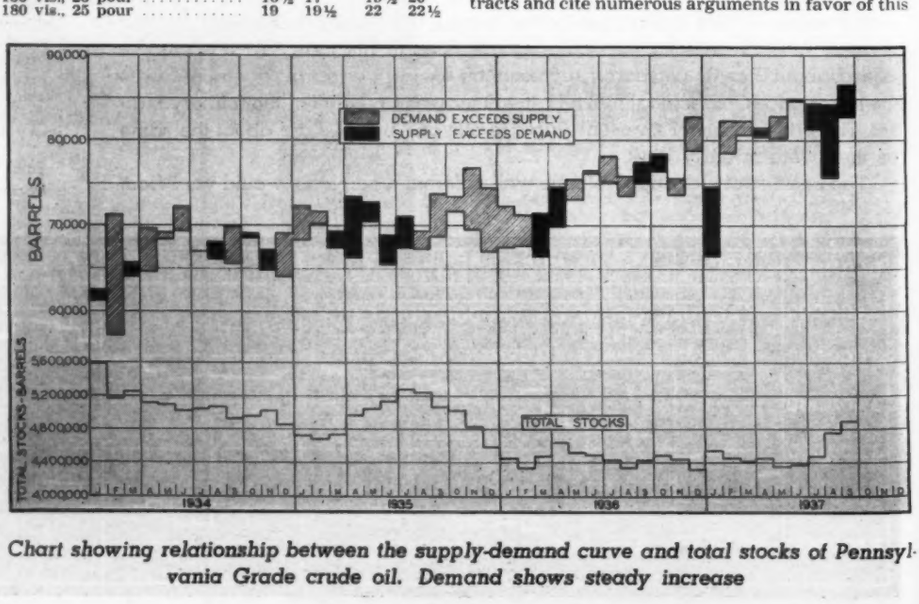


Chart showing relationship between the supply-demand curve and total stocks of Pennsylvania Grade crude oil. Demand shows steady increase

Shooting well near Warren, Pa.

step. Only two of the large purchasers in the field now require this type of contract.

Chief advantages of the ratable contracts are, they say, that the producer can obtain in advance an idea of the approximate amount of crude which will be required from him and they afford the refiner a much-needed opportunity to increase or curtail his runs, within a reasonable percentage, to comply with an increase or decrease in requirements.

In the words of one large Bradford producer, "We are now under a ratable contract and feel that it is the best thing in our interests that has yet been adopted. The purchaser of our crude informs us in advance of his approximate requirements and we plan our drilling program accordingly. This is of particular advantage in this field where the amount of production is directly dependent on the number of wells drilled."

PRICE CHANGES IN PENNSYLVANIA GRADE CRUDE BY AREAS

	Bradford Allegany	Oil City district	S. W. Penna lines	Eureka lines	Buckeye lines
1932—					
Jan. 1	1 85	1 80-1 75	1 55	1 45	1 25
Mar. 1				1 50	1 30
Mar. 12	1 82				1 35
Mar. 14		1 77-1 72			
Apr. 25	2 02	1 97-1 92	1 75	1 70	1 55
Aug. 11			1 72	1 67	1 52
Sept. 13	1 87	1 82-1 77	1 57	1 52	1 37
Oct. 3	1 72	1 67-1 62	1 42	1 37	1 22
1933—					
Jan. 19	1 57	1 52-1 47	1 27	1 22	1 07
Jan. 21	1 47	1 42-1 37	1 17	1 12	97
May 9	1 27	1 22-1 17	97	92	77
May 22	1 37	1 32-1 27	1 07	1 02	90
June 17	1 47	1 42-1 37	1 17	1 12	97
June 26	1 57	1 52-1 47	1 27	1 22	1 07
July 5	1 70	1 62-1 57	1 37	1 32	1 17
July 17	1 85	1 77-1 72	1 52	1 47	1 32
July 28	2 00	1 92-1 87	1 67	1 62	1 47
Aug. 11	2 10	2 02-1 97	1 77	1 72	1 57
Aug. 30	2 25	2 17-2 12	1 92	1 87	1 72
Sept. 6	2 35	2 27-2 22	2 02	1 97	1 82
Oct. 4	2 45	2 37-2 32	2 12	2 07	1 92
1934—					
Jan. 29					1 97
May 1	2 55	2 47-2 42	2 22	2 17	2 07
Nov. 6	2 30	2 22-2 17	1 97	1 92	1 82
Dec. 6	2 05	1 97-1 92	1 72	1 67	1 57
1935—					
Jan. 4	2 20	2 12-2 07	1 87	1 82	1 72
Feb. 4	2 35	2 27-2 22	2 02	1 97	1 87
May 16	2 20	2 17-2 12	1 92	1 87	1 77
June 26	2 05	2 02-1 97	1 77	1 72	1 62
July 16	1 95	1 92-1 87	1 67	1 62	1 52
Sept. 6	2 00	1 97-1 92	1 72	1 67	1 57
Oct. 29	2 15	2 12-2 07	1 87	1 82	1 67
Nov. 20	2 30	2 27-2 22	2 02	1 97	1 82
1936—					
Jan. 13	2 45	2 42-2 37	2 17	2 12	1 97
Dec. 28	2 57	2 57-2 52	2 32	2 27	2 12
1937—					
Feb. 24	2 67	2 67-2 62	2 42	2 37	2 22
June 7	2 82	2 82-2 77	2 57	2 52	2 37
Sept. 1	2 60	2 60-2 55	2 30	2 25	2 10
Oct. 12	2 35	2 35-2 30	2 05	2 00	1 85
Nov. 19		2 30-2 25			
Dec. 1	2 20	2 15-2 10	1 88	1 82	1 70

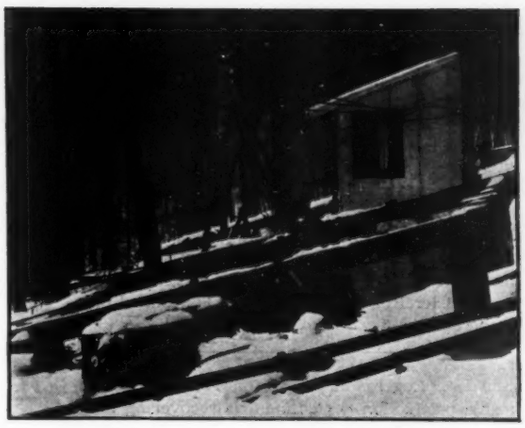
This producer and others as well as refiners expressed the opinion that the absence of ratable contracts shared with lack of sufficient crude storage capacity the responsibility for the decline in both crude and refined prices. They place the blame on some refiners who, in the belief they will lose their crude supply, are running all the crude the producers supply them. This has had the effect of glutting even an expanded market.

The fact that neither producers, as a whole, nor refiners, as a whole, study current statistics available to both and plan their programs accordingly is also apparent. As early as June these statistics showed that crude stocks were on the increase and yet the daily average production of previous months was not curtailed but expanded. Bureau of Mines reports on daily average production and indicated demand for the six months ended with September follow:

Month	Production	Indicated Demand
April	81,800	80,500
May	80,200	83,000
June	85,100	84,400
July	84,600	81,700
August	84,400	74,800
September	86,700	82,900

National Petroleum Association statistics on refined products inventories and crude runs to stills revealed a similar trend and yet a sufficient, general corrective was not applied. Runs were curtailed drastically in August but increased in September.

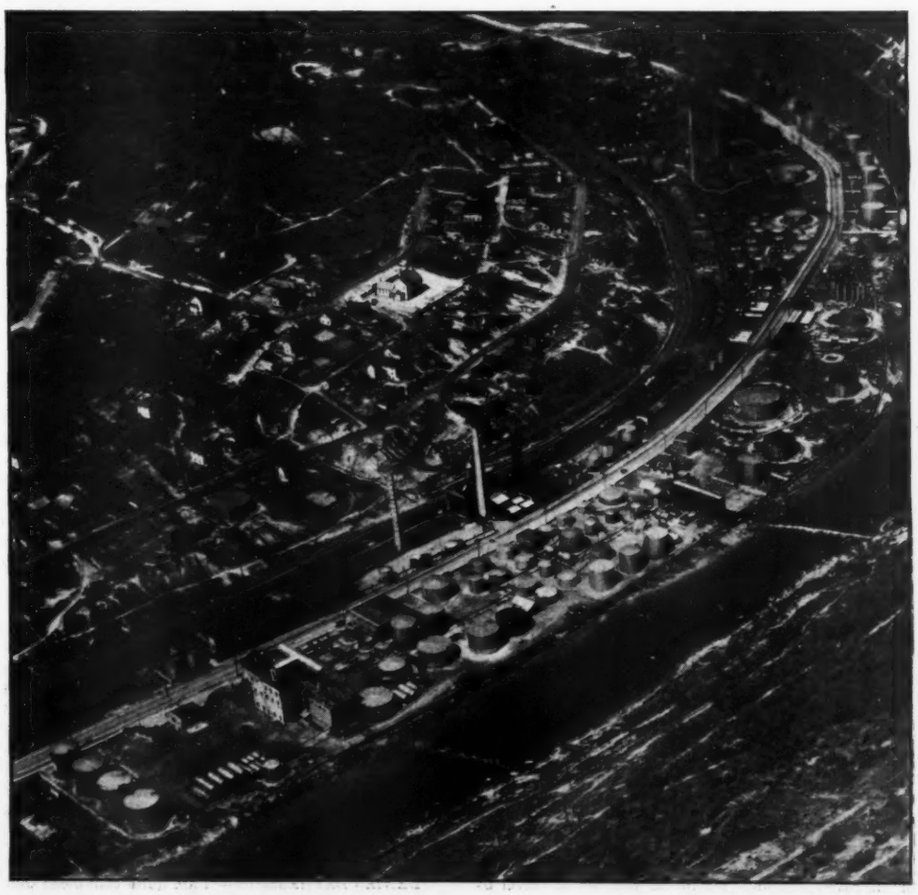
That the experience has been an exceedingly expensive one is likewise apparent. Refiners are disposing of a record amount of products to a record demand at lower than distress prices. Producers are doing virtually the same and, while the



Central power in Bradford field

situation applies to both, theirs is the easier to illustrate.

If, merely for example, the region as a whole had produced 5 per cent less crude this year stocks would be well below their current level. Continuing the example: At present prices, providing there is no further change, a Bradford field producer with a daily average production of 100 bbls. would gross $94,861 from sales of his oil. If the 5 per cent reduction had been general and he had participated, it would have obviated the increase in stocks with consequent price reductions and he would have received $95,033 for his oil. And producing 95 bbls. per day instead of 100, his reserves would have been that much greater or 1,825 bbls. on Dec. 31. In effect, that much oil has been wasted so far as his return is concerned. The same line of reasoning applies, of course, to the refiner for he

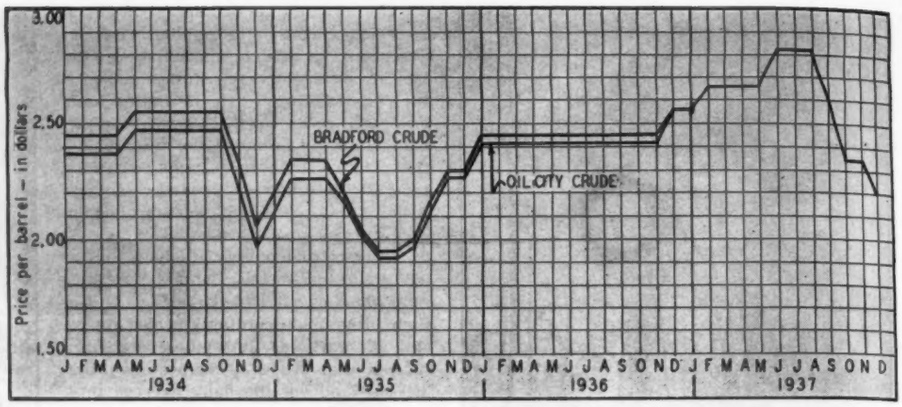


Independent Refining Co. plant at Oil City, Pa.

too would have received a greater return in proportion to his production if the market demand had not been exceeded with resultant lower prices.

Appearing herewith are tables showing the production, demand, stocks and prices of Pennsylvania grade crude oil for the past five years. Except in instances where increasing stocks of refined products, indicated an impending decrease in crude requirements, the price and stocks will be found to conform. This indicates that the inexorable law of supply and demand governs the Pennsylvania market as surely as it does other markets and that the greatest return per barrel of crude or per barrel of refined products is attained only when the dictates of that law are obeyed.

W. S. Rogers, inspector for Texas Co.'s California production department, is recovering from an operation in Burbank.


3.00
2.50
2.00
1.50
Price per barrel – in dollars
BRADFORD CRUDE
OIL CITY CRUDE
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1934
1935
1936
1937

Posted prices of Bradford and Oil City crudes for the past four years

SUPPLY, DEMAND AND STOCKS OF PENNSYLVANIA GRADE CRUDE

	Dly. Ave. production	Ind. demand	Daily over—under	Total stocks	Price Bradford	Price Oil City
1932—						
January	60,000	54,000	+6,000	6,793,000	$1.85	$1.80
February	58,000	54,000	+4,000	6,922,000	....	....
March	58,000	60,000	—2,000	6,880,000	1.82	1.77
April	64,000	62,000	+2,000	6,930,000	2.02	1.97
May	63,645	58,774	+4,871	6,973,000	....	....
June	64,933	63,400	+1,533	7,019,000	....	....
July	57,581	55,613	+1,968	7,080,000	....	....
August	59,194	59,226	—32	7,079,000	....	....
September	56,300	55,133	+1,167	7,114,000	1.87	1.82
October	54,936	55,161	—225	7,107,000	1.72	1.67
November	54,766	56,133	—1,367	7,036,000	....	....
December	53,903	55,290	—1,390	6,993,000	....	....
1933—						
January	53,258	56,871	—3,613	6,853,000	1.57 1.47	1.52 1.42
February	54,392	55,607	—1,215	6,819,000	....	....
March	54,774	55,732	—958	6,790,000	....	....
April	55,133	56,000	—867	6,764,000	....	....
May	55,000	59,065	—4,065	6,638,000	1.27 1.37	1.22 1.32
June	58,700	64,832	—6,133	6,454,000	1.57	1.52
July	57,645	67,806	—10,161	6,139,000	1.70 1.85 2.00	1.62 1.77 1.92
August	61,226	66,452	—5,226	5,982,000	2.10 2.25	2.02 2.17
September	62,333	71,233	—8,900	5,614,000	2.35	2.27
October	64,709	61,936	+2,773	5,772,000	2.45	2.37
November	61,200	63,233	—2,033	5,712,000	....	....
December	58,871	63,032	—4,161	5,581,000	....	....
1934—						
January	62,365	61,086	+1,279	5,597,000	....	....
February	57,107	71,214	—14,107	5,193,000	....	....
March	65,677	63,936	+1,741	5,240,000	....	....
April	64,600	69,633	—5,033	5,117,000	....	....
May	68,290	69,099	—809	5,102,000	2.55	2.47
June	69,233	72,066	—2,833	5,023,000	....	....
July	66,936	67,000	—64	5,036,000	....	....
August	68,064	66,032	+2,032	5,079,000	....	....
September	65,500	69,900	—4,400	4,942,000	....	....
October	69,032	68,581	+451	4,956,000	....	....
November	67,200	64,833	+2,367	5,027,000	2.30	2.22
December	64,097	69,032	—4,935	4,864,000	2.05	1.97
1935—						
January	68,387	72,161	—3,774	4,736,000	2.20	2.12
February	70,107	71,536	—1,429	4,693,000	2.35	2.27
March	69,323	67,516	+1,807	4,749,000	....	....
April	73,400	66,133	+7,267	4,992,000	....	....
May	72,806	70,290	+2,516	5,060,000	2.20	2.17
June	68,866	65,433	+3,433	5,163,000	2.05	2.02
July	71,129	67,581	+3,548	5,278,000	1.95	1.92
August	67,355	69,032	—1,677	5,231,000	....	....
September	68,800	73,833	—5,033	5,080,000	2.00	1.97
October	71,774	73,419	—1,645	5,034,000	2.15	2.12
November	69,600	76,400	—6,800	4,832,000	2.30	2.27
December	66,936	74,266	—7,290	4,599,000	....	....
1936—						
January	67,484	72,064	—4,580	4,442,000	2.45	2.42
February	67,690	71,310	—3,620	4,342,000	....	....
March	71,355	66,484	+4,871	4,493,000	....	....
April	74,600	69,966	+4,634	4,632,000	....	....
May	72,516	75,613	—3,097	4,536,000	....	....
June	76,300	76,533	—233	4,529,000	....	....
July	75,258	78,097	—2,839	4,441,000	....	....
August	73,516	75,968	—2,452	4,365,000	....	....
September	77,633	75,166	+2,467	4,439,000	....	....
October	78,323	76,452	+1,871	4,497,000	....	....
November	73,766	75,666	—1,900	4,450,000	....	....
December	78,968	82,871	—3,903	4,324,000	2.57	2.57
1937—						
January	74,548	66,323	+8,225	4,577,000	....	....
February	78,428	82,392	—3,964	4,461,000	2.67	2.67
March	80,903	82,323	—1,420	4,417,000	....	....
April	81,766	80,533	+1,233	4,454,000	....	....
May	80,258	83,032	—2,774	4,373,000	....	....
June	85,066	84,433	+633	4,392,000	2.82	2.82
July	84,645	81,677	+2,968	4,484,000	....	....
August	84,387	74,839	+9,548	4,780,000	....	....
September	86,667	82,900	+3,767	4,898,000	2.60	2.60

They Say:

LARGER DIVIDENDS—"Cash dividend payments by the companies of the Standard Oil group for the year 1937 are estimated at $273,735,561, compared with $239,000,627 in 1936, an increase of $34,734,934, or approximately 15 per cent, and the largest for any year with the exception of 1930, when the record total of $286,526,728 was distributed," according to Carl H. Pforzheimer & Co., New York.

EVADERS CONVICTED—"Twenty-seven persons in Illinois, Kansas and South Dakota were convicted on charges of evasion of gasoline taxes during October," reports the Central Gasoline Tax Committee of Chicago. "One man, convicted for defrauding Illinois of $127,000 in gasoline taxes, was fined $10,000 and sentenced to one-half year in jail."

PRAISE FROM POST—"The nation has benefited, the industry has prospered and the price of gasoline and other oil products has not been raised to the consumer. A highly competitive industry has taken the lead in bringing this about," says the Saturday Evening Post in its 800-word lead editorial entitled "No More Gushers" of December 4.

NEW HIGHWAYS—There will be 22,000 more miles of improved highways for motor vehicles to travel by the end of this year, the Bureau of Public Roads reports, with 1,149 grade crossings eliminated. This means more gasoline consumption per car in some parts of the United States.

CONSUMER CONFERENCE—"By a combination of efforts, ideas and actions we expect to accomplish, through this interstate cooperation, much good for the consumers of gasoline," explains Assemblyman Harold B. Ehrlich of New York regarding the conference on oil and gasoline consumer problems to be held at Chicago December 21 and 22. The sponsors promise "valuable data" obtained in state investigations regarding oil-marketing conditions.

DIVORCE PLEA—"The whole history of the integrated companies engaged in marketing has been a continuous series of unfair practices. It is high time the wholesaling and retailing of commodities were separated from any influence or control from the producing and manufacturing operations," opines National Petroleum Marketers Association in a Washington hearing on the Patman bill, which seeks to divorce manufacturing from marketing. This association opposed the Connally and the Interstate Oil Compact Commission acts and "takes credit" for bringing about the Madison trial.

DENIES DEPRESSION—"I am quite convinced that in no sense of the word is there a new depression, as such, getting under way," Alfred P. Sloan, Jr., told the Association of Life Insurance Presidents. Sloan is chairman of the General Motors Corp., whose 1938 sales will determine more than any single company the rate of increase in gasoline sales next year.

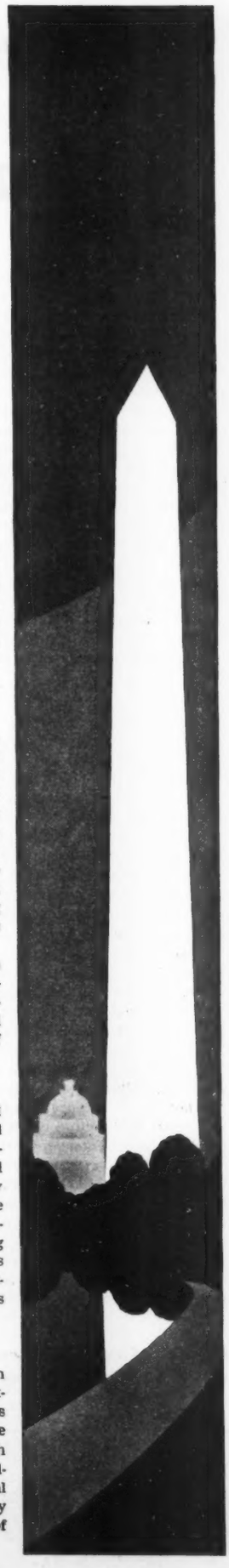
DEFENSE TANKERS—The United States Maritime Commission is willing to help oil companies finance the construction of 12 oil tankers, Joseph P. Kennedy, chairman, told a house committee at Washington, D. C., last week. These tankers, if the offer is accepted, will be equipped with high-speed engines to make them useful in national defense.

POLAR PUMP—"The North country will see a great deal of activity in the near future," predicts C. J. McFarlane, Calgary, Alberta, representative of Ethyl Gasoline Corp., in announcing the installation of the first Ethyl pump in the Polar regions at Fairbanks, Alaska. "The northwest route from Canada to the Orient is 4,000 miles shorter than the present one from Oakland, Calif., and over land a large part of the way."

PRIZE PORKER—"For the sake of Oklahoma I want that hog to bring the highest price at auction that has ever been paid for any pig," said Frank Phillips, president of Phillips Petroleum Co., in regard to a prize pig at the International Live Stock Show owned by an Oklahoma boy. Phillips in bidding had competition from the head of a packing company and had to pay $1.26⅝ per pound for the 315-pound porker. The pig will be distributed this week to the needy in Chicago through Hull House.

Hot-Oil Law Regulations Are Revised By Ickes

By HENRY D. RALPH



WASHINGTON, D. C., Dec. 6.—A complete new set of regulations and executive orders covering the federal tender system of regulating shipments of "hot" oil under the Connally act has been published by the department of the interior. New regulations were necessary because on June 14 congress extended the operations of the act. The four executive orders were approved by Secretary Ickes October 6 but were not signed by the president until December 1.

Few important changes were made except that Federal Petroleum Agency No. 1 is abolished and its powers are conferred on Federal Tender Board No. 1 which is reestablished. A separate order requiring reports of loading and discharges has now been combined with the general regulations. The orders delegate to the secretary of the interior the powers conferred on the president by the Connally act and give official status to the petroleum conservation division of the interior department. As in the past, only one tender board is established, which is to operate in the East Texas field.

In the order, Secretary Ickes included a finding that the potential production in the East Texas field is greatly in excess of the production currently permitted by the state; that there is in that field equipment which would permit the immediate shipment of oil greatly in excess of the allowables; and that there is on hand large quantities of contraband oil which might be shipped in violation of state orders unless the federal tender system is continued.

ANTITRUST DISCUSSION

The department of justice officially is not concerned in the proposal of Governor Marland of Oklahoma that the governors of oil-producing states confer to discuss ways of stabilizing oil prices. At a press conference Attorney General Homer S. Cummings was asked whether Governor Allred of Texas was correct in stating that state officials are not exempt from federal antitrust laws, but he declined to discuss what he described as a hypothetical question, saying:

"Please don't get me involved in any argument between the governors of two great states. As Governor Marland says, there is not law violation by states in discussing prices. Further than that I will not comment."

Other officials of the department of justice likewise declined to discuss the Marland proposal beyond saying they could recollect no case in which state officials undertook to fix prices for a commodity in interstate commerce which would have been illegal if done by members of the industry. They pointed out that the Interstate Oil Compact is expressly a conservation measure and if the oil states desire to go beyond the needs of conservation in curtailing petroleum production a new compact might be necessary and approval of congress obtained.

CONFERENCE IN MADISON

Justice department officials also declined to discuss reports that a compromise settlement of the oil conspiracy case now being tried at Madison, Wis., is under consideration beyond admitting Col. William J. Donovan and three other defense counsels conferred last week with the attorney general and government attorneys in charge of the case. Officials refused to give any inkling of the nature of the conference. Rumors were that the discussion involved possibility of ending the case immediately with a consent decree under which the defendants or certain of them would admit having fixed prices and agree not to do so in the future and in return would be absolved from punishment for criminal violation of the antitrust laws. Another possibility was that the conference simply concerned the technical difficulties of eliminating from the case a considerable number of individuals named but regarding whom the government introduced no evidence directly connecting them with its charges.

DEPLETION TAX ALLOWANCE

Repeal or substantial revision of the internal revenue provisions permitting deduction from gross income for depletion of oil or other minerals will be resisted vigorously, the annual convention of the American Mining Congress was told by Representative W. E. Disney of Tulsa, a member of the committee on ways and means.

In discussing the tax on undistributed corporation income, Congressman Disney declared it is physically impossible to enact changes prior to the close of the year and that it would be inequitable to make revision retroactive to 1937 returns. He gave definite assurance this tax will be modified to exempt corporations with incomes of less than $25,000 and to cushion the effects of the tax as it applies to larger incomes by permitting certain deductions and reducing the tax rates.

RETAIL SALES LEGISLATION

Two bills affecting retailing were given hearings last week by a subcommittee of the house committee on interstate and foreign commerce, but consideration was postponed until January. One, introduced by Representative William M. Colmer of Mississippi, would make state retail sales taxes apply to sales within a state made in interstate commerce, and would affect the oil industry principally in applying local sales taxes to mail-order sales of lubricating oil and automobile accessories. The other introduced by Representative Wright Patman of Texas would prohibit a manufacturer from engaging in retailing where this interfered with the activities of his retailer customers.

The only witness directly mentioning the oil industry was Paul E. Hadlick, secretary of the National Oil Marketers Association, who declared oil producers compete with their customers not only in operating filling stations but in selling fuel oil and in dealings with farmers. He attacked the system of integrated industry.

COAL PRICES

The National Bituminous Coal Commission has established minimum prices at the mine for all classes of coal produced east of the Mississippi and in Iowa, and orders for other producing regions will follow. The prices fixed for industrial and railroad fuel are generally somewhat higher, while the new prices for household grades are somewhat lower. Prices were fixed largely on the basis of mining costs and apparently without specific consideration of the prices of fuel oil or competing fuels. Representative Henry Ellenbogen of Pennsylvania has introduced a resolution calling on the Federal Trade Commission to investigate the effect of recent and proposed increases in coal freight rates on coal and substitute fuels.

FREIGHT RATES

An early decision on the request of the railroads for an increase of 15 per cent in practically all freight rates is expected from the Interstate Commerce Commission as hearings will terminate February 7. The proposed increase would be added to the petroleum freight rates recently increased with the permission of the I.C.C. At the hearing a number of railroad presidents told the I.C.C. they must have additional revenue to meet expenses and that with new revenue they will expand their payrolls and increase their purchases of equipment and materials.

Offset by Turner Valley Crude, Montana Considers Action

CALGARY, Alberta, Dec. 6.—After over 20 years of development and production of naphtha and wet gas along the crest of the Turner Valley field, this Alberta foothills structure's west flank has proved the source of such a prolific supply of high-grade crude oil that the wells are now curtailed to 35 per cent of their potential of about 24,000 bbls. daily. The previous proration was 65 per cent on September 12 and 45 per cent on November 1.

Attending this rapid change there naturally have been important readjustments necessary by the refining companies who had up to a short time ago been running large quantities of Montana oil.

Imperial Oil, Ltd., refineries at Calgary and Regina during the peak months were taking more oil from Montana than the refineries in that state were using, with the British American Oil Co. plant at Moose Jaw also running Montana oil as well as a number of smaller plants in all the three prairie provinces of Alberta, Saskatchewan and Manitoba.

As well after well on the west dip of Turner Valley came in, imports from Montana were gradually reduced, until at present Imperial is not importing any oil and British American is taking only contract oil under agreement which expires December 31, after which time it will use only Alberta oil.

Imperial plants are taking the production from Royalite Oil Co. wells and other subsidiaries of Imperial Oil Co., as well as production from some independent operators, and British American purchases are made from some Turner Valley wells in which it holds an interest, as well as a small amount from independents, but will be able to take more when the Montana contracts expire.

One recent development is the consumer demand for gasoline which is the product of plants taking Alberta oil. Union Oil Co. of Canada has just announced that from now on it will supply its service station consumers with Alberta-made gasoline. This checks the shipments of gasoline coming into Alberta from Vancouver refineries which are using California oil. Union Oil Co. of Canada has not so far taken any active part in development work and neither has it made any announcement regarding entering the refining field.

Texas Oil Co. of Canada is an important factor in supplying gasoline to the Canadian prairie provinces, its products coming from its Sunburst, Mont., refinery, largely supplied from its own wells in that state.

These four companies referred to can be classed as the "majors" so far as supplying the motive power for the motor cars and tractors used by residents of the prairie provinces is concerned.

Officials of Imperial Oil, Ltd., from Toronto, in Alberta recently, announced they were preparing to expend $500,000 on improvements and extensions to their refinery at Calgary and also to make an outlay of $350,000 at Regina on their plant there. At the same time they said the three prairie provinces of Alberta, Saskatchewan and Manitoba, and the eastern portion of the adjoining province of British Columbia to the west, as well as the western fringe of Ontario on the east, could be looked upon as logical market for Alberta gasoline.

Boundary Line Becomes Important

The boundary line between Montana and the Alberta province of Canada in recent weeks has become more important than in any previous period in these northern oil areas. A steady gain in Turner Valley production has practically closed the Canadian outlets to Montana crude.

A hearing called by Governor Ayres was held last week to consider the production problem in Montana while Turner Valley producers want still greater outlets. The accompanying articles summarize conditions in the two areas.

Both the Imperial and British American companies are taking steps to extend their marketing field for gasoline in both Saskatchewan and Manitoba.

How far east the area of penetration will go is something that has to be determined, but the western operators feel they will meet with stiff opposition as soon as they begin to encroach on the territory being supplied by the big Imperial refinery in Sarnia, Ontario, which is being served by the pipe line entering Canada at that point from the United States fields.

To Continue Expansion

British American, which only became an important factor in the oil industry in the western area a couple of years ago, may be looked upon to continue the expansion that is now necessary to meet the changed conditions due to the increased supply of crude being produced in Alberta's extended field. The company has taken the initial step already in its absorption plant in the south end of Turner Valley and possibilities of expansion there or at some railway point within reasonable pipe line distance of the railway will give them the opportunity to supply Alberta territory with gasoline.

There is only one pipe line outlet from Turner Valley, a line belonging to Royalite Oil Co. which extends from the south end of Turner Valley field to Calgary. Recent provincial legislation puts pipe lines under the control of a provincial board with certain jurisdiction over pipe lines as common carriers, but there has been no steps taken yet to exercise this jurisdiction. In the meantime, Royalite is making considerable expenditure on loops and feeder lines to its line into Calgary which will increase its carrying capacity.

Promised addition to refinery equipment will not be available until next spring, and in the meantime the producing companies under the 35 per cent proration could supply sufficient crude to meet the gasoline requirements of the western provinces if only the Canadian-produced article was used.

For the present there will not be any special effort made to secure the trade of Vancouver, Victoria and other Pacific Coast markets in British Columbia, owing to the strongly entrenched position of the companies controlling the refinery position there who have the advantage of the water haul from the California fields and the tankers that come to the Imperial plant from South America.

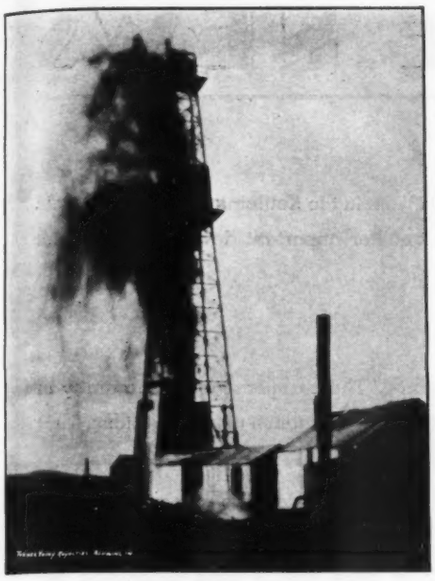
Operating oil companies have formed an organization and are busy in preparation of data regarding the oil situation which will be presented to a meeting of the Canadian tariff board which opens sittings in Ottawa in January.

The Alberta oil men feel they have a strong case to present in favor of some restrictions being placed on the importation of petroleum products, while western Canadian wells are producing only to about one-third of their capacity, and within a very short time will not even be allowed to flow that much unless they secure the greater part of the western business.

Operators offer no severe criticism of the refining companies for their inability to take care of all their production immediately. It is realized that for 20 years the producing companies had been continually extending the old field southward and, though they met with varying success in naphtha production, there were only two wells classed as crude producers.

In May, 1936, the total production of Turner

Royalties, Alberta, the town oil built on west flank of Turner Valley. Wells, left to right, indicated by white lines: Command, Commoil, Granville Oils, West Turner Pete, Richland No. 2, 3 Point, West Flank, B. B., 4 Point, Richland No. 1, Sterling No. 4, North American Pete, Royal Crest, Sterling No. 6, Turner Valley Royalty, Mercury Royalty No. 1, Sterling No. 5



Turner Valley Royalties well, initial big crude oil producer on west flank

Valley was about 96,000 bbls. of all grades. Some time previous to that, Century Royalties drilled on a location in the NW cor. of section 28-18-2w5, on what was looked on as a risky site, "too far west" some of the pessimists said. But it came in as a fair naphtha well and later turned to high-grade crude. Turner Valley Royalties located a well on the 40 acres to the west of it, which in June, 1936, came in with crude oil, the government figures giving its July production at 26,640 bbls., and the field a total of 119,000 bbls.

That started a drilling stampede on the west side, and the result is that the government figures for September, 1937, were 278,652 bbls., and by now it is at least double that.

There have been some 25 wells completed since the Turner Valley Royalties well came in a year ago last June, and there are only two that have failed to produce, while 19 were good for 500 bbls. or better.

The biggest well is Davies Petroleums No. 2, 1 mile south of the initial big well, Turner Valley Royalties, and it is given a government rating of 1,074 bbls. under 35 per cent proration.

Royalite Oil, which had been comparatively inactive for some years past, has had to put down several offset wells north and west of the discovery well, and one completed November 22 has a flush output of 2,855 bbls. daily, being second only to the Davies well.

MONTANA HEARING ADJOURNED

GREAT FALLS, Mont., Dec. 6.—Just what Montana's oil fields need, so far as proration is concerned, probably will not be officially determined until late next spring.

This was evident here Saturday when the Montana Oil Conservation Board adjourned until January 4 a hearing which extended throughout the week, and which got more formidable as it proceeded, due to the introduction of extended evidence by those who contend proration is needed in the Kevin-Sunburst, Cut Bank, Pondera and Border fields, in all of which producers are faced with an over-production problem.

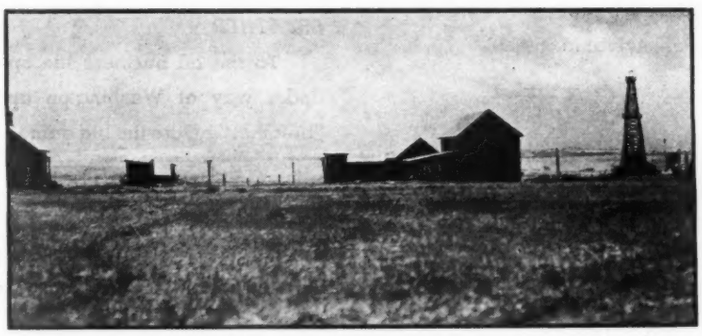
Adjournment of the hearing was made necessary by the required attendance of several board members at court hearings, and came after a solid week of sessions had resulted in introducing only a small part of the evidence to be presented by proration proponents, and covering conditions in the Kevin-Sunburst field only.

Although the hearing was called in the belief it would consist only of a rather brief and informal discussion of field problems, this idea was dispelled Monday when the hearing opened with two attorneys representing the proration proponents and three representing those opposed to a proration program.

It was quickly brought out that the problem which faces Montana producers—lack of a market for their crude—was brought about almost wholly by development of an oil field on the flanks of the Turner Valley gas field in Alberta. The development has been sufficient, it was pointed out, to deprive Montana producers of an outlet for about 9,000 bbls. of daily production.

Remedy for the situation, in the opinion of those who testified during the week, lies in an equitable restriction of output, so far as the Kevin-Sunburst field is concerned. Opinions of those who take an opposite view will not be made known until after the hearing gets off to a fresh start, on January 4.

At the hearing were all members of the state's oil conservation board, including Chairman L. B. O'Neil, W. E. Rice, R. C. Tarrant, O. M. Webb and Howard Alger, and R. P. Jackson, secretary. Also present, at the request of Gov. Roy E. Ayers, who originally requested the hearing be called, were members of the State Public Service Commission.



Cut Bank, Montana

While the move for proration actually was started in the Cut Bank field, it appeared when the hearing started that Kevin-Sunburst operators were more in favor of the move than any other group. This was revealed at the start of the hearing, when petitions for and against proration were read by Secretary Jackson and revealed a large number of marketless Cut Bank producers are opposed to the move.

Providing a statistical background for arguments concerning conditions in the Kevin-Sunburst field, Secretary Jackson reported the field has 111 operators, 225 producing leases and 1,043 producing oil wells, of which 294 are shut in.

John Blixt, geologist for Texas Co., gave results of a brief field survey which showed a developed potential of 213,755 bbls. monthly, with 727,405 bbls. of water, an average of 7,125 bbls. of oil and 24,313 bbls. of water daily. He reported a market for 117,177 bbls. of oil monthly, or 3,780 bbls. daily. He reported 59 leases out of the 225 inactive, with 164 wells shut in with a potential of 27,780 bbls. of oil per month or 926 bbls. daily.

First proration proponent heard was A. F. McClaine, of Barmac Oil Co., whose testimony required practically all of Tuesday. He testified that unless stripper wells in the Kevin-Sunburst field are operated at capacity, they will be ruined. He urged the 800 strippers in the field, defined as wells making 5 bbls. daily or less, be allowed to produce at capacity, or a total of about 2,400 bbls. daily. He recommended the balance of the market be divided among the approximately 200 wells which are making more than 5 bbls. daily. Against a 4,000-bbl. daily demand for crude from this field, he estimated this would give the nonstripper wells an average output of 8 bbls. daily.

Dewey J. Sandall, superintendent for Texas-Pacific Coal & Oil Co., testified that after stripper wells in the Kevin-Sunburst field are shut in for as short a period as a single day, they increase water output appreciably.

R. C. A. Benoit, president of the Kevin-Sunburst Oil Producers Association, testified wells on leases supervised by him are invaded by water if shut in for more than five or six days. His companies, he said, are now without a market, while offset leases are being produced.

E. H. Montgomery, of the firm of Nepstad, Vanderpas and Montgomery, believed Kevin-Sunburst operators whose wells are shut in are being robbed of their oil by operators of adjoining leases who have a market and who are producing their wells at capacity. He declared that only by proration can the stripper wells be saved. A similar opinion was expressed by A. A. Welch of Oilmont, of Yellowstone Production Co.

Casper Oien of Oilmont testified shut-down wells rapidly develop increased flows of water, diminished flows of oil, and said many stripper wells would be ruined unless pumped steadily, in areas which are producing quantities of water. Similar testimony was given by J. C. Day of Cut Bank, manager of P. M. K. Petroleum Corp., operating in both the Kevin-Sunburst and Cut Bank fields.

Presentation of the arguments of Kevin-Sunburst operators favoring proration was concluded Friday.

Marking start of evidence concerning the need of proration in the Cut Bank field, E. B. Emrick, Conrad geologist and discoverer of the Bannatyne field went on the stand late Friday. He was also the chief witness Saturday afternoon, before adjournment. He gave testimony which had to do for the most part with geological conditions of the Sweetgrass arch, on which all of the fields involved in the hearing are located.

Photos by H. Pollard, Calgary

Davies Petroleum No. 2, Turner Valley's biggest well

SPARKS FROM THE NEWS

PAYERS SHOCKED

Even the oil operators themselves were amazed as the increasing tax burden was revealed to them at the Dallas tax conference. They will be still more impressed as they pay many of these taxes over the next few months.

NOBODY WINS

While union leaders representing two factions within labor's ranks argue as to which shall represent the men working for an oil company the latter is releasing its oil connections and abandoning its offices.

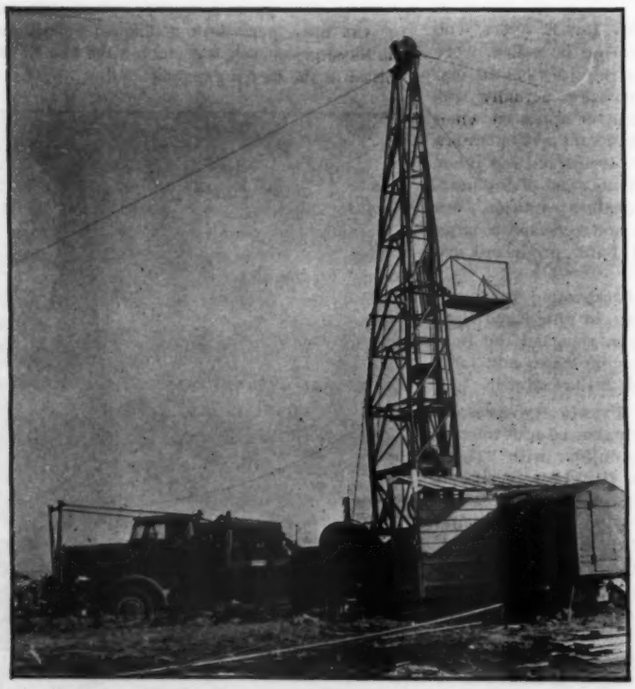
OBJECT LESSON

The recent breaks in Pennsylvania Grade crude oil and refinery products are proof again that an 8 per cent gain in demand does not help sellers when they bring about a still greater increase in supply. The entire industry would profit from a study of recent developments in the Pennsylvania area.

SPREADING

The Oscar-Seay district of Jefferson County, Oklahoma, never makes the headlines, yet 50- to 150-barrel wells are being completed every week at 1,200 feet, and now the drilling play is extending into the Red River bed.

READY TO GO



Drilling rig completely portable ready to spud in on Osage County, Oklahoma, lease. Rig and truck, diesel powered

DEEP STRIKE

A strike below 10,000 feet in the Kettleman North dome field of California points to another important development in that area.

UNANIMITY

An investigator reports: "There appears to be unanimity in the opinion that all refiners should reduce their operations. That is, all other refiners."

SEEK SHALLOW PAY

With the big thrills of huge Wilcox sand production behind them, operators in the Oklahoma City field are now looking to shallower formations for production and a mild revival of activity is under way.

BREATHER

To the oil business the special session of congress now under way at Washington appears to be in the nature of "breather" before the big game schedule for the first of the year.

REFINERS NEXT

Producers have curtailed their output in line with demand. Refiners should now advance their gasoline prices in line with costs.

INADEQUATE MARKETS

The long distances from adequate markets, rather than large increases in production, explain the proration difficulties confronting operators in Montana and Alberta.

OVER THE HUMP

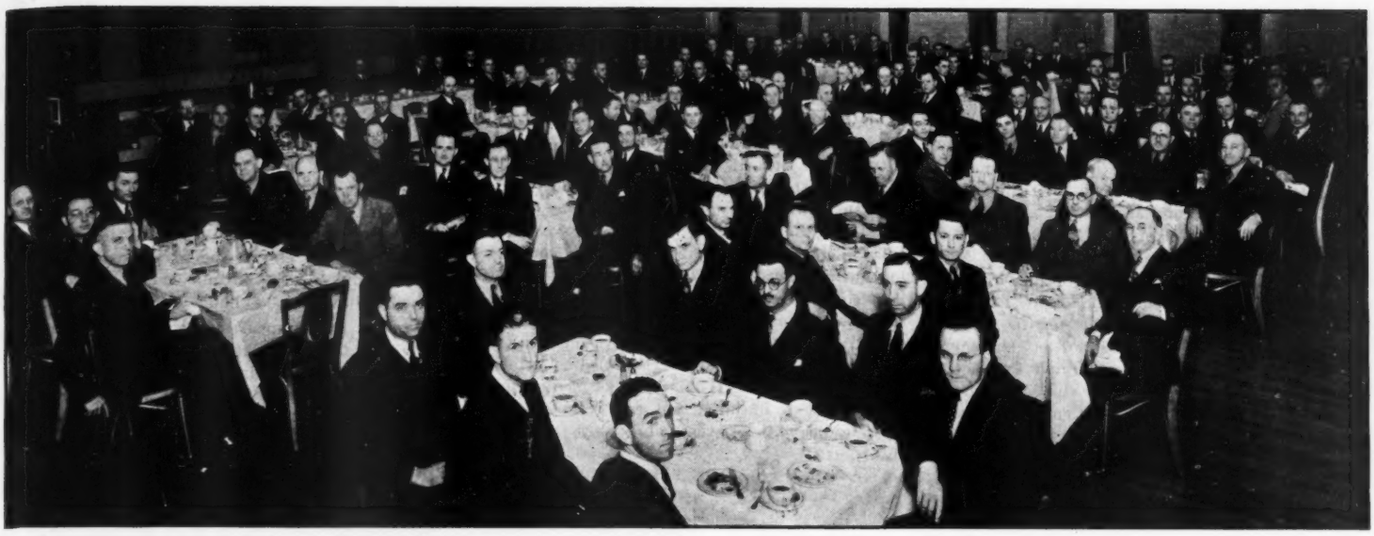
Crude oil production last week dropped to the March 13 level. The trouble lies in the hump in output between those two dates.

SHORT-SIGHTED

Slowly one oil company is completing an interstate pipe line following the rules laid down by labor union leaders, but there will be no tanks available to operate the line because the type of tanks needed is made only in a "marked" shop.

BUCK PASSING

Crude oil buyers and transporters in curtailing purchases in Miller County are attempting to bring about the needed proration refused by the Arkansas Conservation Committee.



Mid-Continent Oil and Gas Association tax committee luncheon

Cooperation With Tax Bodies Keynote at Dallas Meeting

By MITCHELL TUCKER

DALLAS, Tex., Dec. 4.—Resolving not to give an inch, and renewing their cooperative efforts to bring about a more equitable tax burden upon the oil industry, leading tax men closed a highly successful two-day session in Dallas at the joint annual meeting of the Mid-Continent Oil & Gas Association's standing committees on state and local taxation, and federal income and excise taxation.

Judge W. H. Francis, of Magnolia Petroleum Co., vice president for Texas, opened the meeting with stirring remarks on the industry's present tax plight. "This thing has gone far enough. Every time the government needs money it sees the oil industry as an easy mark—the end of their rainbow. If it keeps up there will be no end, and no pot for anybody."

Very little time was spent wailing over the exorbitant and unjust taxes upon all branches of the petroleum business, or their multiplicity of forms and duplications. Instead the determined tax men concentrated upon effective ways to obtain immediate relief. Means proposed included cooperative action with the tax imposers in various administrative branches of the local and national governments; tax appraisers; tax gatherers; tax spenders; and tax payers (the public).

Early in the first day H. L. Stone, chairman of the Texas steering committee on state and local taxation, received almost unanimous approval when he stated in his annual report: "Certainly we have not made much progress in the handling of our ad valorem tax problems by adopting a negative attitude. By being against any and every tax program; by seeking to reduce every assessment regardless of what was proposed; by never looking beyond the immediate this-year picture, we have succeeded only in driving the counties and districts into the arms of the so called 'experts' who have gladly advised them both on the taking and the spending of our money."

Another committee chairman strongly recommended that tax men view both sides of the picture by studying budgets of all tax levying bodies, recognize their problems, and render all the assistance possible by acquainting them with the duplications of excise and special taxes already saddled upon an industry which is, and has been, carrying a greatly disproportionate load. With 42.8 per cent of all state and local taxes coming from the petroleum industry in Texas (as an example) why should not the taxpaying oil men of the state show more interest and have a greater voice in its spending?

Quoting further from the annual report of the Texas steering committee: "With our producing properties subject to both the general ad valorem tax and the special gross production tax, unlike other states, which levy one or the other but not both; with our pipe lines singled out with railroads for the 'intangible' assessment from which other businesses are in fact, if not in law, exempt; with our refineries and marketing properties, as well as leases, specially appraised and unequally assessed by 'experts' to whose critical inspection other property is not subjected; with 42.8 per cent of all state and local taxes coming from this industry; with a state and local load of 8½ cents on each barrel of oil produced, and with 27.7 per cent of pipe line operating profits being taken by the tax gatherer, our lot is not a happy one."

Officials and speakers at tax meeting. Standing: John W. Campbell, staff assistant, Mid-Continent Oil and Gas Association; Clarel B. Mapes, general secretary-treasurer; G. W. Patchett, staff assistant; Arthur R. Campbell, secretary, Arkansas-Louisiana Division; Leo W. Austin, new general chairman on federal taxation. Seated: M. J. Lasseigne, executive committee; J. A. Vorderman, who spoke on chain-store and sales taxes; John Cullen, retiring chairman on federal taxes; and F. P. Hagaman, who spoke on court decisions

Reports from the executive committee chairmen of the various states or districts on state and local taxation were made Thursday morning, with George W. Foster, Texas Co., Houston, as general chairman. Dan D. Harley, chairman of the Oklahoma steering committee, reported for that state. Clyde Snodgrass, Sinclair Prairie

Oil Co., Tulsa, was elected to succeed him in 1938. C. C. Deardorff, Skelly Oil Co., was retiring chairman for Kansas, being succeeded by Fred J. Collins, Cities Service Co., Bartlesville. For Texas, H. L. Stone, Humble Oil & Refining Co., Houston, reported; he will be succeeded by I. D. Parmley, Gulf Oil Corp., Houston. M. J. Lasseigne, Arkansas Natural Gas Co., and Arthur R. Campbell, secretary of the Arkansas-Louisiana division of Mid-Continent Oil & Gas Association, both of Shreveport, reported for that area. John Hammerman, Jr., Gulf Oil Corp., Houston, was elected to succeed Mr. Lasseigne as steering committee chairman for that area. F. N. Shriver of Shell Petroleum Corp., Houston, was reelected for the New Mexico committee. H. L. Sawyers of Los Cruces, tax agent for the New Mexico Oil & Gas Association, reported for that state. John P. Morgan, Sun Oil Co., Dallas, reported for Mississippi; Frank Abbott, Texas Co., Houston, will succeed his as committee chairman for that state during 1938. Chairman Leo Meyer of the outside states steering committee reported; John P. Morgan, Sun Oil Co., Dallas, will succeed him next year. O. C. Cash, Stanolind Oil & Gas Co., Tulsa, will replace Chairman J. A. McNeese, Continental Oil Co., Ponca City, on the all states excise tax steering committee.

Illinois-Indiana

To care for the expanding developments in the Illinois Basin area, a new Illinois-Indiana steering committee for 1938 was appointed, with Carl Barker, Shell Petroleum Corp., St. Louis, Mo., as chairman and Windell Stephens, Ohio Oil Co., Findlay, Ohio, as vice chairman. Considerable concern was expressed over the pending possibility of taxing wildcat and undeveloped oil and gas leases in these states, and the committee will consider this as one of its first assignments. The greater part of this acreage was taken for small amounts and has relatively little value. It has been estimated the cost of putting these leases, totaling several million acres, on the books of the various states would be about 15 cents per acre, which in itself would be a tax greatly out of proportion to the property values.

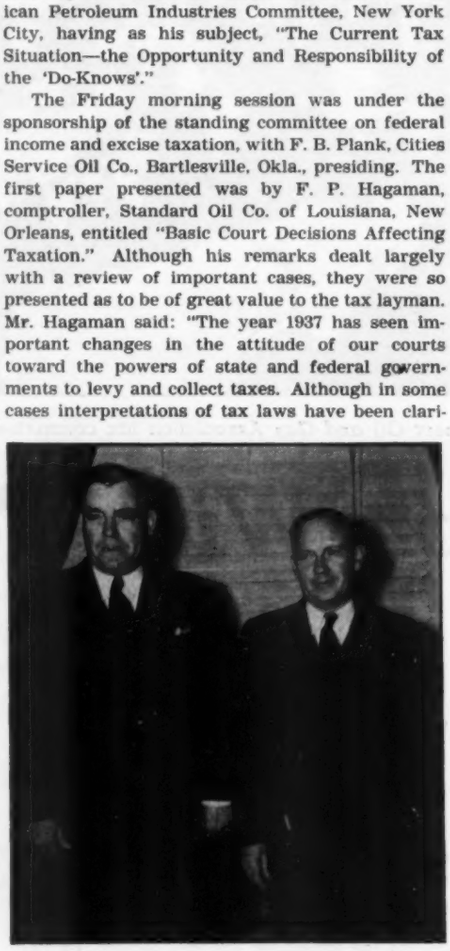
W. Leo Austin, tax attorney, Mid-Continent Petroleum Corp. of Tulsa, delivered the first paper, "Problems Arising Under State Unemployment Compensation Acts." After citing all important cases relative to the constitutionality of these acts, both federal and state, he elaborated upon such immediate problems as the preparation of reports required by the commissions; the computation of wages under unusual circumstances; and the treatment of independent contractors under these acts.

This session was sponsored by the standing committee on state and local taxation, George W. Foster, general chairman. For 1938, J. C. Wallingford, Amerada Petroleum Corp., Tulsa, was elected to succeed Mr. Foster. H. L. Stone, Humble Oil & Refining Co., Houston, was elected general vice chairman for 1938.

"Trends of Chain Store Taxation, and Sales and Use Taxes," was the subject of the next paper, presented by J. A. Vorderman, Texas Co., Denver, Colo. He made a very complete survey of the states now having such laws and their application to the oil industry. "Fairly good proof of the statement that chain-store tax laws were not aimed primarily at the oil companies lies in the fact that of the 23 states referred to as having chain-store tax laws at present, all but eight have either applied much lower rates, as in Montana and North Carolina, or else have exempted, by provision of the laws themselves, their application to bulk distributing stations and to service stations. In some cases, though, the handling of petroleum products must be the exclusive business or else account for a given percentage of the total business in order for the exemption to apply."

The annual dinner of the association committees was held Thursday evening, attended by about 125 members and friends. The feature address was made by Gen. Baird H. Markham, director, American Petroleum Industries Committee, New York City, having as his subject, "The Current Tax Situation—the Opportunity and Responsibility of the 'Do-Knows'."

The Friday morning session was under the sponsorship of the standing committee on federal income and excise taxation, with F. B. Plank, Cities Service Oil Co., Bartlesville, Okla., presiding. The first paper presented was by F. P. Hagaman, comptroller, Standard Oil Co. of Louisiana, New Orleans, entitled "Basic Court Decisions Affecting Taxation." Although his remarks dealt largely with a review of important cases, they were so presented as to be of great value to the tax layman. Mr. Hagaman said: "The year 1937 has seen important changes in the attitude of our courts toward the powers of state and federal governments to levy and collect taxes. Although in some cases interpretations of tax laws have been clarified in favor of the taxpayer, a broad survey of the more important decisions indicates that the trend is definitely toward extension of taxing powers of government at the expense of what most of us had come to regard as our vested constitutional rights. Former concepts of 'due process,' 'equal protection,' and 'burdens on interstate commerce' must be revised and limited in the light of the apparent tendency of the courts to restrict the application of these constitutional guarantees where they threaten serious interference with powers of federal and state governments to tax."



George W. Foster and F. B. Plank, who presided at the two-day tax meeting

Old Age Benefits

Newton Montgomery, tax attorney, Phillips Petroleum Co., Bartlesville, Okla., formerly with the Bureau of Internal Revenue, spoke on "Old Age Benefits Taxation," explaining the various ramifications of these acts as applied to the oil industry.

Following a luncheon served to about 150 members and guests Friday noon, Ellsworth Chapman Alvord of Washington, D. C., spoke on "Federal Taxation." Mr. Alvord is general counsel of the American Mining Congress. He divided his remarks into two parts, the depletion tax allowance, and the undistributed profits tax. Much reassurance was received from his remarks on depletion allowances: "There is plenty of talk in Washington, with good foundation, that the treasury department will abandon its proposal to eliminate the 27½ per cent depletion allowance given companies engaged in the development of our natural resources. However, it is our job to see that this present percentage is not reduced as a compromising point. We have only halfway won the fight and if we continue our efforts we might even gain an increase in the percentage. That should be our hope."

Turning to the second portion of his speech, he stated: "The undistributed profits tax is completely and unqualifiedly discredited in the present session of congress. If the fires that are burning in Washington are continued and enlarged, I believe we have a good chance to completely kill it."

In his final appeal for cooperation among oil men and their legislators, he suggested the representatives in Washington be contacted and facts to sustain their side be placed before them. "In this way we can make ourselves heard in the affairs of our government, and do much to end the period of experimentation through which it is passing."

In addition to the newly elected chairmen in the standing committee on state and local taxation, the following men were elected to serve during 1938 in the standing committee on federal income and excise taxation:

Executive Committee

W. Leo Austin, general chairman, Mid-Continent Petroleum Corp., Tulsa; H. D. Mahin, general vice chairman, Elkins, Weems & Francis, Houston, Tex.; Newton Montgomery, Phillips Petroleum Co., Bartlesville, Okla.; Gay Carroll, Humble Oil & Refining Co., Houston, Tex.; R. W. Clark, Skelly Oil Co., Tulsa; M. J. Lasseigne, Arkansas Natural Gas Corp., Shreveport, La.; T. W. Prentice, L. H. Wentz (oil division), Ponca City, Okla.; H. F. See, Atlantic Refining Co., Dallas, Tex.; S. M. Greenidge, Texas Pacific Coal & Oil Co., Fort Worth, Tex.; F. B. Plank, Cities Service Oil Co., Bartlesville, Okla.; J. A. McNeese, Continental Oil Co., Ponca City, Okla.; R. M. Chan, G. L. Tate, alternate, Magnolia Petroleum Co., Dallas, Tex.; J. R. Kelley, Shell Petroleum Corp., St. Louis, Mo.; Fred B. Branson, Gulf Oil Corp., Tulsa; J. B. Galbraith, Stanolind Oil & Gas Co., Tulsa; T. H. Marshall, Anderson-Prichard Oil Corp., Oklahoma City, Okla.; V. G. Gillingham, Texas Co., Houston, Tex.; John W. Campbell, secretary to the committee, Mid-Continent Oil & Gas Association, Tulsa.

Steering committee chairmen on federal income taxes: J. A. McNeese, chairman, Ponca City, Okla. V. G. Gillingham, vice chairman, Houston, Tex.

Steering committee on excess profits and capital stock taxes: Gay Carroll, chairman, Houston, Tex. Fred B. Branson, vice chairman, Tulsa.

Steering committee on federal excise taxes: S. M. Greenidge, chairman, Fort Worth, Tex. J. R. Kelley, vice chairman, St. Louis, Mo.

Steering committee on pipe line transportation taxes: Guy L. Tate, chairman, Dallas, Tex. J. B. Galbraith, vice chairman, Tulsa.

Steering committee on social security taxes: Newton Montgomery, chairman, Bartlesville, Okla. T. W. Prentice, vice chairman, Ponca City, Okla.

Steering committee on Oklahoma state income taxes: T. H. Marshall, chairman, Anderson-Prichard Oil Corp., Oklahoma City.

Steering committee on Kansas state income taxes: R. W. Clark, chairman, Tulsa.

Steering committee on New Mexico state income taxes: H. F. See, chairman, Dallas, Tex.

Steering committee on Louisiana and Arkansas state income taxes: M. J. Lasseigne, chairman, Shreveport, La.

North Dakota Wildcat Has Passed 4,100-Foot Mark

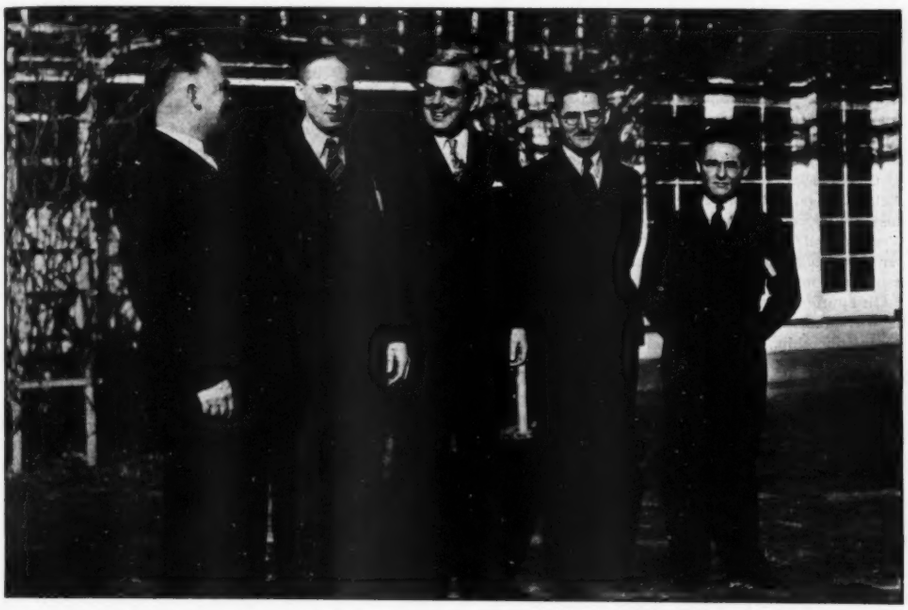
The wildcat being drilled in North Dakota by California Co. was below 4,100 feet and drilling at the weekend. It is No. 1 Leach and others, C NW NE section 3-154n-96w, Williams County, N. D.

Lubrication Tests and Application Discussed at N. P. A. Conference

OIL CITY, Pa., Dec. 4.—Lubricating oils, their tests and applications were discussed by speakers at the semi-annual meeting of the department of standards and tests of the National Petroleum Association at the Wanango country club this week. Upward of 60 Pennsylvania refinery representatives attended.

Dr. J. C. Geniesse, research chemist of the Atlantic Refining Co. Philadelphia, was the principal speaker, discussing "Lubricating Oil Testing—Here and Abroad."

Correctness of results by A. S. T. M. tests depends upon three things, the method, the equipment and the operator, P. M. Robinson, chief chemist, The Pennzoil Co. Oil City, stated in his paper on "Sources of Inaccuracies in the Testing of Lubricating Oils." Inaccurate, worn-out or nonstandard equipment and carelessness of the operator were cited as the chief difficulties in obtaining correct results. Admitting laboratory equipment is expensive, he called attention to the fact that this cost is found to be small when compared to an adjustment for a sale when that adjustment could have been avoided through use of the proper equipment.



Russell R. Buckham, Oil City, chairman of the Oil City-Titusville group, N.P.A., of the department of standards and tests; A. W. Scott, National Petroleum Association trustee in charge of the department; MacLean Houston, Warren; Dr. J. C. Geniesse, Philadelphia, and P. M. Robinson, Oil City. The latter four were speakers and Mr. Buckham in charge of arrangements for the conference

MacLean Houston, superintendent, United Refining Co. Warren, opened discussion of "Training Laboratory Personnel in A. S. T. M. Procedure" by calling attention to the importance of accurate routine testing. Subsequent discussion revealed methods by which some laboratories prevent operators from developing carelessness such as written examinations, use of "blind" samples, oral questioning with dismissal for those who fail to answer correctly, etc.

A. W. Scott, Wolverine-Empire Refining Co. Oil City, National Petroleum Association trustee in charge of the department of standards and tests, opened the meeting with a talk on the importance of the department to member companies. Russell R. Buckham, chief chemist, James B. Berry Sons' Co. Inc., Oil City, chairman of the Oil City-Titusville group of the department, presided during the afternoon session and J. E. Moorhead, executive secretary of the Pennsylvania Grade Crude Oil Association, at the evening session.

Included among those who attended the meeting were:

W. A. Johnston, Bradford-Penn Refining Co., Clarendon; C. W. McConnell and W. B. Dashem, Conewango Refining Co., Warren; J. G. MacDonald, Hyvis Oils, Inc., Warren; Andrew Mondock and Dale McKallip, Canfield Oil Co., Cleveland; E. Pyle and R. P. McCollough, Daugherty Refining Co., Butler; Arch L. Foster and John W. Thompson, National Petroleum News, Cleveland: George E. Brown and Fred McLaughlin, Quaker State Oil Refining Corp., Farmer's Valley.

A. W. Scott, L. M. Baltzell, W. B. Smith, O. P. Keeney, Wolverine-Empire Refining Co., Oil City; J. E. Moorhead, W. W. Dunlap, Pennsylvania Grade Crude Oil Association, Oil City; F. C. Atwell and Earl Dorrance, Sloan & Zook Refining Co., Warren; J. C. Geniesse, Atlantic Refining Co., Philadelphia; I. L. Klein, Continental Refining Co., Oil City; Dr. G. O. Ebrey, Louis Walz, Tom Harkins, Jack Grosser, The Pennzoil Co., Oil City: Earl Ericson, Thomas Donaldson, James Miller, Harry Greene, Victor Ver Milyea, United Refining Co., Warren.

D. B. Williams, Carbide & Carbon Chemicals Corp., New York; P. M. Robinson, The Pennzoil Co., Oil City; MacLean Houston, United Refining Co., Warren; W. W. Tarr and Ed Brady, Pennsylvania Refining Co., Butler; A. M. Cox and P. C. Green, Cities Service Oil Co., Titusville; A. H. Hagen, Valvoline Oil Co., Butler; L. A. Calkins, R. L. Sailer, H. Hubell, R. L. Mills, Valvoline Oil Co., Franklin; T. G. Murphy and R. J. Gulnac, Franklin Creek Refining Co., Franklin.

F. J. Planker, Quaker State Oil Refining Corp., Emlenton; J. R. Fay, The Mars Co., Oil City; Daniel A. Breene, Pennsylvania Grade Crude Oil Association; A. W. Cole, W. J. Scott, Charles R. Scott and H. W. Reardon, Wolverine-Empire Refining Co., J. W. Fawcett, Crystal Oil Works, Oil City; and J. P. O'Donnell, The Oil and Gas Journal.

Gear Lubricant Dispensers And High-Pressure Guns

Valvoline Oil Co., through its advertising department, has circulated results of a survey conducted among 2,705 automotive outlets for determining the number and type of gear lubricant dispensers used and the number of high-pressure guns in use by these outlets.

The survey shows that 80 are operated by the major integrated companies, 172 by outlets leased from integrated companies, 784 are independently operated units and the balance are outlets offering general car repairs, and storage, or car dealers.

Of the total 79 are not equipped with centralized pressure chassis lubrication equipment or high-pressure guns for dispensing the summer grades of gear lubricants and 350 are not similarly equipped to dispense the winter grades.

Frederic Ewing Announces His Retirement from Socony-Vacuum

NEW YORK, Dec. 7.—Frederic Ewing, vice president and director of Socony-Vacuum Oil Co., Inc., announced his decision to retire from active service last week, but at the insistence of the executive committee, will continue to serve as a director for 18 months. As vice president he was in charge of all sales activities. He became vice president and director of Socony-Vacuum Oil Co. when it was formed from the merger of Standard Oil Co. of New York and Vacuum Oil Co., in 1931.

Mr. Ewing was born in San Angelo, Tex., in 1884, and graduated from Yale University in 1906 with the degree of mining engineer. Before joining Standard Oil Co. of New York in 1928, he was with Pan American Petroleum & Transport Co., for 14 years.

The Socony-Vacuum executive committee has created the new position of eastern sales manager in charge of operations for New England, New York, New Jersey and Pennsylvania. Walter Faust, previously in charge of the marine and aviation business, has been appointed to the new office as of January 1, 1938.

Some Pennsylvania Dealers Ask Legislation on Oil

HARRISBURG, Pa. — The Pennsylvania Petroleum Dealers Association want oil placed alongside a competing fuel—anthracite—as a possible subject for a special session of the legislature in 1938.

A group of 50 gasoline and oil retailers representing, they said, 30,000 dealers and 150,000 employes, wound up a two-day session by a campaign for regulation in the oil industry.

"An oil control board like the milk control commission," was the slogan of the conference, said A. A. Fish of Philadelphia, president of the Independent Oil Dealers Association, and John Lamberti, of Scranton, executive secretary. A brief outlining their plan will be submitted to Judge Ralph H. Smith of Pittsburgh, chairman of the oil industry commission, investigating the need for regulation at the request of the 1937 legislature. Messrs. Fish and Lamberti said they would ask Judge Smith to press for a special session when Governor Earle returns December 17.

Texas Commission to Consider Rodessa Casing Program

AUSTIN, Tex.—The Railroad Commission will consider at the statewide proration hearing December 17 a petition for revision of the casing program in the Rodessa field.

George B. Barham, of Midland, sought elimination of a second string of approximately 2,000 feet, which under present rules is in addition to 200 feet of surface casing and 6,000 feet of producing casing. Mr. Barham contended extension of the surface casing to 800 feet would seal off all water sands and withstand pressure sufficiently to protect against blowouts.

Gulf Coast A.P.I. Production Chapter Elects Officers

The Gulf Coast Chapter of the American Petroleum Institute, division of production, reports election of the following officers to serve during the ensuing year:

D. B. Collins, chairman; E. P. Hayes, first vice chairman; Warren Baker, second vice chairman; Carl Hickman, secretary-treasurer.

The chapter also elected members of the advisory board as follows: C. E. Reistle, Jr., E. P. Hubbard, H M. Harris, Harry L. Edwards, Neil Williams and C. A Russell, all to serve for a one-year term; T. H. Andrews, A. G. Leby, C. E. Sutton, Gordon Richmond, Gage Lund and Rex Hamaker, for a two-year term.

West Texas Oil and Gas Association Re-elects Judge Hunter President

ABILENE, Tex., Dec. 6.—More than 700 members and friends of the West Central Texas Oil and Gas Association met in Abilene December 4 for the sixth annual meeting.

Judge J. C. Hunter, of Abilene, serving his first term as president in 1937, increased its membership to about 1,050. With the association behind him, he had an important part in blocking undesirable and detrimental bills in the legislature. In recognition of the successful year, officers were unanimously reelected: J. C. Hunter, president; A. J. Frazier, first vice president; Ralph G. Fleming, second vice president, and Ed King, secretary-treasurer.

Thirty members of the Texas house and senate were present, headed by Lieut. Gov. Walter Woodul, Speaker R. W. Calvert and Bob Barker, senate secretary.

Executives and officials introduced included W. W. Warner, Nowata, Okla., president, National Stripper Well Association; Clarel B. Mapes, Tulsa, general secretary-treasurer, Mid-Continent Oil and Gas Association; J. Ed Erwin, Wichita Falls, first vice president, North Texas Oil and Gas Association; C. P. McGaha, Wichita Falls, president, and George C. Gibbons, executive vice president, Texas Mid-Continent Association; Charles F. Roeser and C. E. Buchner, president and executive manager, Independent Petroleum Association of America; Col. Ernest O. Thompson and Lon A. Smith, Texas Railroad Commission, and Bill McDonald, Texas land commissioner.

Senator Frank H. Rawlings, Fort Worth, urged economy in federal and state government instead of increased taxation. Charles F. Roeser said "the price of oil should be sufficient to permit recovering this pumpable oil at a profit."

H. C. Burke, Fort Worth, vice president, Continental National Bank, added the banker's side of the picture.

Col. Ernest O. Thompson said: "The jitters of three weeks ago are apparently over. At that time oil production was far ahead of consumption. The trial at Madison added to the uneasiness as leaders of the industry were being tried by one branch of the national government for something which they were told to do a few years prior by another branch of the government. Today we have reduced production to just about where it should be. Drastic steps properly and promptly taken proved proper. I believe that if we will watch our production until about April 1 that the oil people of the industry will have a prosperous new year."

C. P. McGaha discussed tax conditions in Texas and their effect on stripper properties. During the past year nearly 1,000 small stripper wells were abandoned in West Central Texas, and in many instances the 11 cents per barrel tax was the determining factor between profitable and unprofitable operation.

In appreciation for Judge J. C. Hunter's leadership, he was presented with some fine personal gifts from the membership.

Marland to Call Conference Of Governors in January

The proposed conference of governors of oil producing states to consider crude oil price stabilization will be called early in January, according to Governor Marland of Oklahoma, originator of the plan. He was quoted as saying had been asked to call the conference before Christmas, but believed it unwise at such an early date. He thinks the governors should first be supplied with detailed information regarding cost of production, probable reserves, how much can be produced by flowing and how much by pumping, number of pumping wells, etc.

It is his plan to begin an immediate study, employing a petroleum engineer to work up data, and contact engineers in other states.

"These figures will be necessary and I am going ahead to get them," Governor Marland said. "We need to know what the reserve is, how much has to be lifted and the lifting cost. All Americans are vitally concerned in how much it will cost to get it out of the ground, I think."

It is his thought "that you can't allow 2,000,000,000 bbls. to flow and be sold at a price at which 10,000,000,000 bbls. can't be lifted."

Eight of 21 governors invited have responded favorably, including those of Kansas, Arkansas, New Mexico, Michigan, Colorado, Utah, Tennessee and West Virginia. Gov. James V. Allred of Texas already had declined.

Geological Fraternity to Hold Meeting at Texas University

The eleventh biennial convention of Sigma Gamma Epsilon, honorary geological fraternity, will be held at the University of Texas on December 30-31, 1937. Convention business, field trips, and banquet will be the order of the two-day meeting. All old members are cordially invited to attend. Details may be obtained by writing the general secretary of Sigma Gamma Epsilon, University of Texas, Austin.

Black-Connery Wage Bill Up in House Next Week

WASHINGTON, D. C.—The Black-Connery wage-hour bill will be called up in the house December 13, a majority of the members having signed a petition which takes this measure from the rules committee which has had it pigeon-holed since last session. Drastic amendment is in prospect as the labor committee has announced 60 amendments will be offered. Several substitute measures will also be proposed, and while some sort of a wage and hour bill will be passed, the final measure may bear little resemblance to that passed by the senate last spring.

Texas Attorney General Asks Date for Ouster Hearing

AUSTIN, Tex., Dec. 6.—Attorney General William McCraw Monday filed an application with Travis County district court for a setting for trial of the $17,850,000 maximum penalty and ouster antitrust suit against 17 oil companies and the American Petroleum Institute, filed five years ago by James V. Allred as attorney general. The State Supreme Court recently sustained McCraw's contention the state antitrust laws are not void because of discriminations, and that the suit was not nullified by the temporary intervention of the NRA.

Mr. McCraw anticipated the trial will be set for about the middle of 1938. Meantime, the commissioner appointed may go ahead with further taking of testimony.

East Texas Sunday Shutdown Holds Down Daily Average

HOUSTON, Tex., Dec. 7.—For the third Sunday the East Texas field was shut down December 5, except for 7,033 wells permitted to produce to supply gas for domestic use. On the basis of the allowable production Saturday, Sunday's shutdown cuts 488,039 bbls. from the total production of the week, wells producing Sunday being required to shut down another day during the week. Daily average production the past week was held to approximately 417,000 bbls.

Engineers of the Texas Railroad Commission withheld any disclosure whether they will recommend the Sunday shutdown past December 12. A further decision will depend on the data collected by the engineering department and will be compiled by the hearing December 17.

Government Given Verdict in Elk Hills Field Title Suit

LOS ANGELES, Calif., Dec. 6.—Federal Judge Leon Yankwich decided for the government in its suit for title to Elk Hills oil land held by Standard Oil Co. of California. He held that the state, in obtaining the land from the federal government for school purposes had no right to turn it over to private interests.

The ruling assessed damages of $6,164,102, of which $1,896,819.67 was assessed jointly against the company and two individuals—Clara Fairbanks and Frank J. Raneny, El Paso property owners. The government however was denied interest on the claim, which would have doubled the damages.

Judge Yankwich found the land worth $10,000,000 and the value of the oil extracted as $11,000,000 from which Standard was entitled to overhead expenses and the cost of production.

DRILLING CREW NEAR SUSANK, KANSAS—Seated: H. L. Singletary, president, Iron Drilling Co.; Harry Davison, driller; standing: C. W. Baker, Tom Grannell, and John Smith, tool pushers; O. S. Newman, M. C. Ray, M. D. McCoy and A. J. Martin, drilling crew

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

A Positive Tax Policy

One suggestion at the tax meeting of the Mid-Continent Oil and Gas Association at Dallas last week appears to have particular merit. It was based on the suggestion that the oil industry should concern itself about how the tax money collected from it is being spent.

As emphasized at the meeting, the oil industry in the past has concerned itself largely with opposing tax increases or additional taxation, usually with just cause since the industry is bearing an undue share of the constantly increasing tax burden.

Although it was fully justified in this position, so far it has not brought any tangible results in the form of reduced taxes or stopped continual increases.

One of the mistakes of industry generally and the oil business in particular is the attitude of seeming indifference towards tax expenditures. The management of a company will watch closely expenditures on even minor items with a view to eliminating them if not necessary in the efficient operation of the property. The board of directors will spend hours, or possibly days, discussing the saving of 1 or 2 per cent in laying out their budget for the coming year.

The development and engineering departments are kept busy trying to save 1 or 2 cents a barrel in the cost of producing oil or to lower gasoline production costs a small fraction of a cent a gallon in refining.

It is this vigilance that accounts for the industry's tremendous strides in efficiency which has operated to keep down the cost of its products.

But the inconsistency is that while taxes are increased by thousands of dollars, and, in the case of some major companies, by millions of dollars, the industry never concerns itself with what becomes of this money after it is turned over to political units for disposal.

It is no secret that much of it is wasted in duplicated effort, in unsound programs and in some cases outright misappropriation. There is every reason to believe that in many instances public officials would welcome constructive criticism and cooperation from those who furnished the money. They feel helpless because they do not have the information necessary to analyze properly requests for increased funds on which to operate. They know that something is wrong but lack specific information with which to confront those who are constantly seeking additional funds from the public treasuries.

That increased taxation means increased cost of products has been demonstrated many times in the past two years. The oil industry would not only be serving itself but consumers of all products if the taxpaying companies would give the same keen scrutiny to public expenditures they give to their own operating expenses.

This information would provide a real basis for combating further tax increases or bringing about a reduction as will have to be done.

Most companies now have tax departments in charge of tax payments. A division to analyze tax expenditures and offer cooperation with public officials would be much more likely to produce results than the merely negative attitude usually taken.

The oil industry contributes 42.8 per cent of all state taxes in Texas but there is probably not one man in a thousand who has any idea where that money goes. They know it is greater than one year or five years ago but cannot intelligently analyze it.

Meanwhile taxation mounts and is added to the cost of doing business and consequently to the cost of living and the consumer pays and pays. Individually he cannot penetrate the tax maze but the larger taxpayers such as the oil industry can and should for their own protection and for the public welfare.

Promotions in Phillips Petroleum Company

Kenneth S. Adams, whose selection as executive vice president of Phillips Petroleum Co., was announced last week, is a native of Kansas, born at Horton, August 31, 1899. He matriculated at University of Kansas in 1917, went to training school in 1918 and returned to the university in 1919. Always interested in sports, he played football and basketball and in 1919 secured a job in Bartlesville, Okla., during vacation. He was offered a position with Phillips Petroleum Co. which gave him a chance to play on the Phillips basketball team and accepted. Excepting one summer his 18 years of business experience has been with the Phillips company, ranging from the warehouse and material department through the production department and the Bartlesville office as an assistant to the operations manager. Transferred to the accounting department in 1926 he became assistant chief clerk of that division and in 1927 was elected assistant secretary and a year later assistant treasurer. In August, 1932, he became assistant to President Frank Phillips and in April, 1935, was elected treasurer also.

K. S. ADAMS

Donaldson (Don) Emery, elected vice president and general counsel, was born in Delmont, Pa., in 1893, and was educated at Allegheny College, Meadville, Pa., and the University of Oklahoma. After practicing law at McAllister, Okla., he joined the legal department of the company in 1925 and in 1926 was made attorney in charge of the Texas legal division with offices at Amarillo. He was elected vice president and assistant general counsel January 1 of this year and transferred to Bartlesville.

Russell M. Riggins, elected treasurer, was born in Gainesville, Tex., in 1894. His business connections included the Frisco Railroad, M. K. & T., Ford Motor Co., Morris & Co., Armour & Co., and as senior partner in the accounting firm of Riggins & Beck. Between 1922 and 1930 he was with the Independent Oil & Gas Co. of which he was treasurer and a director when it was merged with the Phillips company of which he was made comptroller.

Roy Parr, who succeeds Mr. Riggins as comptroller, has been with the company since March, 1924, recently in the capacity of auditor and assistant secretary.

DON EMERY R. M. RIGGINS ROY PARR

Mid-Continent Royalty Owners Hold Annual Meeting

Directors of the Mid-Continent Royalty Owners Association at the annual meeting in Tulsa December 7 authorized the new executive committee to initiate steps to make the organization national in scope, including both royalty owners and dealers in oil and gas interests.

James Hailey, Royalty Corp. of America, was named president to succeed Robert H. Wood, chosen as first vice president for the new year, John G. Ellinghausen, was elected second vice president; Sam Allen, Sapulpa, third vice president; Frank Buttram, fourth vice president, and S. A. Dellaplain, Ponca City, fifth vice president. H. M. McMillan, Tulsa, secretary-treasurer, will continue in that position until a permanent secretary is chosen.

The executive committee consists of the officers and J. R. Simpson, R. S. Shade, and George H. Ernest.

Walter Priddy, Tyler, Texas, said the Texas Royalty Owners Association was to be undertaken.

Estonia Shale Oil Exports Increase 300 Per Cent

Shale oil exports from Estonia increased 300 per cent for the first seven months of this year compared to the same period in 1936. From January to July, 1937, inclusive, 158,424 bbls. of shale oil were exported from Estonia having a value of $460,000, compared with $108,000 in the same period last year, according to a report from W. C. Trimble, United States vice consul at Tallinn, Estonia.

The production of oil shale this year totaled 586,000 metric tons compared with output of 407,000 tons during the first seven months of 1936. Shale oil refiners anticipate the total production in 1937 will be in excess of 1,000,000 metric tons.

THE MARKETS*

CRUDE OIL: *Changes in posted schedules of past week confined to further cuts of 15 to 18 cents per barrel in Pennsylvania grades, reflecting continued weakness in lubricating oil and gasoline markets. In other parts of country, large reductions in national crude output have brought better feeling regarding probable price trends over rest of year and early part of 1938.*

REFINERY: *Gasoline tankcar quotations continue downward trend in Mid-Continent with no improvement in other areas. Kerosene particularly strong with product selling higher at many Mid-Continent plants than the third-grade gasoline. Furnace oil demand strong in all areas. No improvement in industrial and marine demand for residual fuels. Lubricants weak.*

TANK-WAGON AND POSTED DEALER: *Standard of Indiana advances kerosene prices one-half cent at subnormal points.*

FINANCIAL: *Small gains in few stocks bring higher average levels. Average for 30 stocks for week ending December 4: High, 29.23; low, 26.99; close, 28.61. Week ending November 27: High, 28.33; low, 25.79; close, 27.96.*

**Detailed information in market section.*

Right of Texas to Sue for Oil Upheld by Supreme Court

WASHINGTON, D. C., Dec. 6.—The Supreme Court upheld the right of Texas to sue Trinity Refining Co. to recover 77,000 bbls. of petroleum allegedly produced in violation of conservation laws even though the company was in the hands of the federal bankruptcy court. The court reversed lower federal court decisions and said denial of right to establish claim to oil constituted taking state's property for benefit of offending company.

Reduction in Rates Sought By Louisiana Towns

The Louisiana Public Service Commission has issued notices of a public hearing in Winnfield on Friday, December 10, on the application for reduction of rates in natural gas in Winnfield, Pineville, Olla, Fairbanks, Georgetown, Kelly, Pollock, Standard, Tioga, Tullos, Columbia and other towns in central Louisiana served by Pineville Gas Co. and Southern Gas Line Co.

Of the gas processed by gasoline plants 6.04 per cent was lost in extraction, 15.72 per cent was used for plant and lease purposes, 41.68 per cent was sold the carbon black plants, 25.94 per cent was disposed of to pipe lines and 10.62 per cent was blown into the air.

Verne Austin, a district supervisor of the California State Division of Oil and Gas in Bakersfield, Calif., has returned to Bakersfield from the department's Santa Paula office, where he relieved C. C. Thoms, deputy supervisor, while the latter made a trip to San Francisco.

OBITUARIES

FRED R. WELLER, president of Standard Oil Co. of Louisiana from its founding in 1909 until 1920, and subsequent member of the board of Standard Oil Co. of New Jersey, died at Daytona Beach, Fla., December 2. As founder of Standard Oil Co. of Louisiana, he selected the site for the Baton Rouge refinery in 1909 and supervised the construction and operation for 11 years.

LUCIEN P. LOCKE, 37, former advertising director of Ethyl Gasoline Corp., died December 2 at Ponte Vedra Beach, Jacksonville, Fla., after a prolonged illness. He joined Outdoor Advertising, Inc., as vice president in 1936. He was a son of George D. Locke.

Dismiss More Defendants; Others Being Considered

By R. B. PYRE

MADISON, Wis., Dec. 7.—Federal Judge Patrick T. Stone today granted motions for acquittal verdicts on behalf of three individual defendants in the trial of major oil companies. He announced he is still considering motions of other defendants who now number 28.

The three dismissed today are John A. Welch, Shreveport, La., sales manager of Louisiana Oil & Refining Co.; R. R. Irwin, Kansas City, manager, White Eagle division, Socony-Vacuum Co., and Ira A. Smith, Tulsa, buyer for Standard Oil Co., Indiana.

The court today barred from evidence a letter from Secretary Ickes to R. G. Cocanower, Olney, Tex., announcing that the oil industry must "solve its own problems."

No Settlement

Last week's sessions of the trial were interrupted by so many prolonged arguments over offers of proof in the absence of the jury that the defense had not finished with its second witness at the week-end adjournment.

Judge Stone sustained the government's objection to the offer of proof as to Ickes' intervention, but he ruled "the defense may show anything that might affect the price of gasoline," and added, "if it bases its defense upon the Appalachian Coals case it ought to be permitted to offer evidence to support that defense. It has a perfect right to do so."

"Did the work of the P and C committee affect the refinery price of gasoline?" Donovan then asked Wirt Franklin.

"It did," the witness replied, explaining, after the court directed that testimony along this line be confined to allocations of refinery production, that the cost of refining was increased by higher wages and reduction of hours under the code. A letter from Ickes, appointing C. M. Boggs regional allocator of quotas, mentioned their "vital effect" upon the success of stabilization efforts.

Motive Important

Col. Donovan then sought again to prove that Ickes insisted the price of crude oil be kept from dropping below $1, and the jury was excused during another long argument, while the defense also offered to prove that one of the objectives of the code was to help the small refiner by removing surplus gasoline from the market. And again the government charged that the testimony proposed the "motive" element into the case, drawing a booming protest from Goldthwaite Dorr, attorney for the Socony-Vacuum company.

"Why have these government attorneys dared to refer throughout this case to the 'steps to greed and avarice' if motive has no part in this case?" Dorr demanded. "In all my years of practice I never before have seen such a thing in a criminal case.

"The government can charge every conceivable kind of dirty motive to us, but we can't show that what we sought to do was what the government sought to accomplish."

J. C. Denton, representing the Mid-Continent Petroleum Corp., argued that the motive defense could not be denied under the "entrapment rule" to the individual officers of his company who, he contended, were led to participate in the surplus

Blank & Stoller

J. C. DENTON

buying campaign believing they were acting in accordance with the government's wishes.

Secretary Ickes, said Denton, adopted the plan as "his own," and if the government wanted to be fair, he charged, "they would have indicted him along with these defendants." The court ordered Denton's statement stricken as a slur on a high government official and labeled his entrapment defense "nonsense."

"These men were not entrapped; they knew what they were doing," Judge Stone said.

Buying Authority

Judge Stone demanded proof that the defendants had any authority for their gasoline buying program after November 14, 1934, when, government attorneys said, the last "buying pool" was authorized under the code. The defense will prove, Donovan answered, that there was no pool.

The judge sustained the government's objection to Donovan's offer of proof as to objectives of the pool, stating for the record that the recognized purpose of NRA was to stabilize all industry. "That's as far as I think we ought to go," he said, but he added there was no dispute that the price of crude oil was "raised and maintained" at $1.

This gave the defense an opening which Donovan immediately seized.

"At whose insistence?" he asked Franklin.

"Mr. Ickes'," the witness replied.

The jury was excused again while Col. Donovan submitted offers of proof that Mr. Ickes had said he did not want the price of crude to go below $1, and read a speech made by the secretary at a conference of governors from oil-producing states in Washington during March, 1933, when he pointed out the necessity of stabilization to prevent the "squandering" of the nation's oil resources by improvident methods.

"We want to show," said T. P. Young, attorney for the Shell Petroleum Corp., "the true picture of economic conditions in which the industry found itself early in 1935."

"You may show that," Judge Stone replied. "and you may go back beyond that, to middle of 1934, if you wish."

"It is a tragic thing," Young continued, "that this case must be tried by men who don't understand the industry. We ought to be allowed to tell the jury just what we have been through. Motives are tremendously important in this case. These defendants undertook to salvage their industry from disaster."

In a supplemental offer of proof, Mr. Dorr asked the right to show the efforts of government agencies to restore a parity price on gasoline while holding the price of crude at the established level.

"We are entitled to look upon the abnormally low tankcar price prevailing in relation to conservation," he added, and requested that evidence be permitted to show the causes of fluctuation in years previous to the stabilized level prevailing during the greater part of 1935, allegedly as a result of the "price fixing" conspiracy.

"I don't think much of your theory of conservation," Judge Stone told Dorr. The defense, however, refused to yield on its claim that the industry has a vital part in the conservation of oil. W. P. Z. German, attorney for the Skelly Oil Co., who said he played a leading part in some of the biggest legal battles over production control measures adopted by the producing states, argued the right to show "the evil conditions existing and our efforts to correct them."

Judge Stone's ruling on the offers of proof was a "half and half" decision.

He sustained the government by ruling out proofs that would have opened up the records to a mass of testimony regarding the conservation element, the conference of governors, and the chaotic conditions prevailing before the days of the code, but he directed that the defense be permitted to show conditions and factors prevailing in the industry during 1935 and 1936 which did not exist prior to that time as bearing upon reasons for the stabilized level of prices which the government claims was due to the "buying programs."

This opened another door to the defense. Franklin testified there was no effective control of gasoline production during the first three months of

1935, but passage of the Connally "hot oil" act and establishment of tender boards produced, for the first time, an approach toward a balance between production and demand.

The condition of independent refiners was brought to the attention of the P and C committee and Secretary Ickes, Franklin said, but when Donovan asked what action was taken the government again objected and again Donovan's offer of proof was rejected.

The defense attorney also unsuccessfully offered proof of a resolution presented to the P and C committee in July, 1934, urging that gasoline prices be fixed to prevent collapse of the entire market structure, and of a meeting in October, 1933, when a plan for purchases of gasoline by major companies was discussed.

Franklin's cross-examination was brief. In answer to a question by Mr. Chaffetz, he said the "interstate compact" contained no specific provision for stabilization of prices, but declared the compact nevertheless had that effect.

Shatford's Testimony

Problems of the independent refiner and his distress gasoline finally were described to the jury when Shatford took the stand. He testified that the P and C committee requested major companies to purchase from the independents in the interest of a firm market, that allocations under the code after April, 1934, when oil producing states were divided into districts and given production quotas, compelled some majors to buy part of their gasoline requirements from the small refiners, and that the major companies were requested by the code authority in March, 1935, to make a sacrifice in the interest of firm prices.

As national coordinator, Shatford said, he also recommended the quantity of gasoline to be held in storage, and maintained a policy of keeping inventories "on the low side.' On January 1, 1935, inventories were down to 54,000,000 bbls., whereas the tendency of major companies had been to build up stocks during the winter in anticipation of summer demand. The reduction, he explained, was regarded as desirable, because it tended to create a firm situation in the market "and we would have a higher price for gasoline."

"What did you do yourself to increase purchases of gasoline?" the court asked.

"In several instances," Shatford replied, "I discussed the inventory situation with various major representatives. In many cases we urged them to buy gasoline. Indirectly we did other things to accomplish the same purpose. Our purpose was not only to supply a normal demand for gasoline, but to create a firm market condition. We thought that was the underlying purpose of the code."

At the instance of the prosecution, Judge Stone ruled out a conversation between Shatford and E. B. Swanson, former member of the P. A. B. when Lewin claimed conversations between "underlings" had no significance, and that Ickes himself was the responsible authority.

"The P. A. B. were absolutely the bosses in this gasoline business, your honor," Shatford interjected.

"No, they weren't," Judge Stone replied. "Secretary Ickes was the boss. Let's get that straight."

"We will show that there was no such buying program as that alleged in the indictment, and therefore there was no approval," Donovan replied. "What we did required no written approval."

Bearing upon the chaotic conditions of 1934 and early 1935, which the defendants claim they attempted to remedy as a legitimate service to the industry, Shatford explained that "in some circumstances," a small amount of distress gasoline can depress the entire market.

If a refiner, during a shaky period, has 10 cars on hand which he can not dispose of except at a reduced price, he may call 10 brokers, and each of these may telephone 10 others, Shatford said. They will attempt to sell the gasoline back and forth to each other until they can "make 10 cars look like 100."

Describing the plight of small refiners, he explained to the jury how they were "driven back upon themselves" in the Mid-Continent area as their market gradually receded because of increased refining activities by major companies at the sources of the largest markets along the Atlantic Seaboard and in Illinois, Ohio and Pennsylvania, and partly because of the introduction of continent-spanning pipe lines. The customers of the independents were reduced to tank-truck buyers and independent jobbers, and the major companies themselves, he said. Then, when the big companies gradually expanded their facilities until they could produce more gasoline than they needed, they ceased purchasing from the small refiners, and to make matters worse, they soon began to compete with the little companies for their own jobber customers, he added.

On top of these troubles, the new East Texas field created a severe surplus, "and those of us who were buying legal crude found ourselves competing with those who were getting their oil cheaper," Shatford said. "We had to produce at prices under the cost of production and the result was that we were about all broke."

The majors themselves began dumping surplus gasoline on the market, the cost of material was high and the return low, he added. In January and February, 1934, the posted price of crude oil was $1 a barrel, but not all the refiners were paying that price because they could buy illegally produced oil cheaper, even at 25 cents a barrel, Shatford said.

This situation created two prices for crude oil, while there was only one price for gasoline, until 9-C, the "hot oil" amendment to the recovery act, was adopted in March of that year.

"Before that all of us were getting some 'hot oil'," Shatford explained, "but 9-C put us up against it. We had to stop."

The first allocating system provided under the code was "weak, pale and ineffective," he said, and it was not until April, 1934, that an amendment was obtained to provide a really effective system of allocating production among the refiners.

Shatford disclosed that the major companies were asked in March, 1935, by Howard Bennette, who preceded him as national coordinator, to make a sacrifice in the interest of a firm market.

February weather was bad and consumption was below expectations. The inventory objective for March had been set at 65,000,000 bbls., but a survey at the end of February disclosed an excess of 1,400,000 bbls. resulting from the subnormal demand, mostly in the hands of 23 large companies, including 13 of the original defendants in the antitrust case.

These companies, Shatford testified, were asked by Bennette to curtail their refinery runs in March, and most of them complied with the request, with the result that production was reduced by about 960,000 bbls.

Defendant companies listed as having been requested to cut their output were Barnsdall, Phillips, Pure Oil, Sinclair, Skelly, Socony-Vacuum, Standard of Indiana, Cities Service, Continental, and Mid-Continent, in addition to Texas, Gulf and Tide Water Associated, which have been dismissed from the case.

Other majors among the 23 included in the "sacrifice" were listed as National Refining, Richfield, Rio Grande, Shell Union, Standard of California, New Jersey and Ohio, Sun Oil and Union Oil.

Wide Variance

Testimony at wide variance with the government's theory of the case was brought into the record by the defense Monday. After prolonged arguments, Shatford was permitted to testify that three major factors contributed to the rise in the tankcar price from 3¼ cents to 4¾ cents, during the three months from March 1 to the end of May, 1935. They were, in the order stated, the Connally "hot" oil act, the voluntary curtailment in March production, and the unexpected increase in gasoline consumption which started in March and continued throughout the year.

When the government demanded why he omitted "buying programs," he said he included buying as an element in the increased demand.

Shatford's testimony reached the jury's ears after the prosecution had fought almost throughout the day to keep it out of the evidence. And he declared further that "the same old Connally act" was the major factor in maintaining a level of prices from June, 1935, to the end of the year—again at variance with the prosecution's claim that the alleged "conspiracy" was responsible.

The Connally act, passed in May of that year to prohibit interstate shipment of illegally produced oil, provided the first really effective control of crude production, he explained. It was a "valve" in the hand of government, taking the control of production out of the hands of industry, and constituted the "floor" under the entire price level, Shatford declared, pointing to another fact not hitherto noted in the case—that the prices of all petroleum products remained similarly at a uniform level during the same period.

Before court adjourned Friday, Judge Stone asked Shatford to furnish tabulations showing what proportion of the 965,000-bbl. curtailment of refinery production in March was contributed by the defendant companies. Their net reduction, he testified Monday, was 214,386 bbls.

As an element in the entire situation it had the effect of firming the tankcar market, or, in other words, "firming the price" he insisted when the government claimed his statement was "speculative."

To the extent that the major companies found themselves with less gasoline than they needed, they were compelled to replace the shortage from some other source, which meant purchasing it, Shatford explained, and that was just what the code authority intended.

"Our purpose was to try to open a gap in the market to get the smaller refiner's gasoline into that market at a fair price," he said, and Judge Stone refused the prosecution's demand that the statement be stricken.

It took several days to get the curtailment program under way, Shatford said, but stocks fell virtually to the objective by March 1, and the result was not entirely due to the curtailment, the "other half" being due to the demand which went 900,000 bbls. above estimates in March.

The defense sought to show that this effect of

Contrast

NEW YORK, Dec. 6.—There was much comment in oil circles here that while the department of justice was prosecuting oil companies for alleged violation of the antitrust act Attorney General Homer S. Cummings, addressing a meeting of business and finance leaders at the Waldorf Astoria last week, said:

"No doubt, in rewriting the antitrust laws, attention should also be given to providing protection and encouragement to legitimate efforts of enlightened business men to increase production and employment, to improve working conditions, to eliminate waste, to provide more effective methods of distribution, and to supply better services to consumers and to the public. Nor should we overlook the fact that recalcitrant minority groups may, by ill-considered methods, impair or destroy the orderly conduct of business, with incidental injury to labor and to the public. The word 'chiseler' has in modern times come to have a very definite meaning."

forcing purchases was one of the objectives of the refinery amendment to the code, but the government objected that it was trying to "get in through the back door what had been barred at the front door" and the jury was excused again while Colonel Donovan offered proof. If permitted to testify, Colonel Donovan said, Shatford would tell of conversations with E. B. Swanson in the Petroleum Administration Board offices over a published report that 20 per cent of the small refiners had gone out of business by January 1 because of difficulty in competing with "hot" oil. Swanson, the statement continued, knew the situation was bad and agreed something had to be done quickly.

Ruling by Court

The court ruled with the prosecution that Swanson could not speak for Ickes and the conversation was immaterial. A new argument followed when the defense offered to show "only the high spots" were covered by formal orders of the administrator.

It was now apparent, government counsel protested, that the defense was trying to show "informal" approval of the major companies' activities.

"We are not claiming exemption or immunity," Colonel Donovan answered. "We claim we did only what was right and proper."

"Your honor knows," John H. Lewin objected, "that oral approval is not enough, and no amount of 'talkie-talkie' can take them out from under the Sherman act."

Goldthwaite Dorr, for Socony-Vacuum, however, pointed out Ickes "took credit" when it was all over, and Frederick Wood of Sinclair said the "cooperation" which Ickes mentioned in his 1935 report referred to "cooperation" of Mr. Arnott's tankcar stabilization committee.

"We want to prove we did the very things the secretary had in mind when he wrote that report," Mr. Wood said, "but these gentlemen don't want your honor or the jury to have the facts. They want you to make all your rulings on the basis of their statements of what the facts are. They want you to say without hearing any evidence that Ickes' own board was cooperating in an illegal enterprise."

Lewin declared the P.A.B. report, along parallel lines, showed the board was "ignorant of what was really going on" and charged certain details must have been concealed from officials of the interior department.

The presidents of indicted companies, J. C. Denton of Mid-Continent Petroleum Corp. observed, as far as the evidence shows, had less knowledge of details than Ickes, and in reference to Mr. Denton's claim that the government, to be consistent, should have indicted Ickes as well as the major companies, Judge Stone interposed: "You'd have to go all the way up the line and indict the president also under your theory."

"That's right," Mr. Denton said, but he pointed out he meant no reflection upon either Mr. Ickes or the president. "Of course they shouldn't be indicted, and we shouldn't have been either," he said. The court later ordered that all such references to both Ickes and the president be stricken from the record.

Reading the section of the petroleum core requiring approval by Ickes, Judge Stone ruled that "anything as important as a buying program" would require written approval.

Besides ruling out Shatford's conversations with Swanson as immaterial, the court Monday sustained government objections to offers of a proposal by the code authority for storage of excess gasoline; an administration proposal to have refiners hold their gasoline off the market for a "better price"; a statement by Shatford to the administrator that "the big companies don't want to buy but we insist they shall"; and a price graph for the last three months of 1934, showing a rise during that period which, the defense sought to show, was "due to an act of the government itself," through tender boards temporarily set up to control production.

Judge Stone, however, ruled Shatford might tell how the P.A.B. functioned. Special duties were assigned to various members of the board because it was frequently impossible to see the administrator, and these members were "shot around the country," so much that often no more than two or three remained in Washington to confer with members of the P and C committee. "We were doing the best we could under the circumstances, meeting emergency after emergency," he said. In relation to market stabilization and production control, he added, "we felt we had the law and all necessary authority."

"Are you speaking now of allocations?" Chaffetz demanded.

"I'm speaking of purchasing programs," said Shatford.

He isn't a lawyer and he didn't know whether or not the 1935 buying was legal, but, he told Judge Stone, "if I were the court and wanted to know whether or not they were legal I would want to know what kind of buying programs had been approved previously."

"Tell me what kind were approved," Judge Stone invited.

Three Programs

Three programs were conducted in 1934 with approval of Ickes' administration, Shatford explained, describing the Bennette, France and Horween programs, all of which, he said, were "highly formalized" with contracts and quota committees, and had all the characteristics of a "pool," but all were failures. Ickes anticipated only small quantities of surplus gasoline would be bought, but as the programs provided for prices "above the market," the refiners were "very happy" to sell all the gasoline they could at these prices and keep on producing more.

Judge Stone suggested some of this testimony might be helpful to the jury, but sustained a government objection that it was irrelevant and immaterial.

When the jury returned after nearly five hours, Shatford briefly repeated his statements regarding difficulty of contacting P.A.B. members, adding, however, that he usually contacted E. B. Swanson, who was in charge of refinery and production matters. He testified tankcar prices rose from a low of 3¼ cents a gallon in March to 4¾ cents in May, and Judge Stone, over the surprised objection of the prosecution, allowed him to continue when Colonel Donovan asked what "influences" contributed.

The 3¼-cent price, Shatford explained, reflected the cost of illegal crude oil before the Connally act was set up, and when this law relieved the pressure that had held the price down, the advance was rapid and irresistible.

"Do you know whether or not there was a buying program going on?" the court inquired, and when Shatford paused in his answer, Judge Stone substituted another question: "Are you taking into account any effects of a buying program?"

"I'm taking all elements into account, and the buying program would be an element," Shatford replied.

Reason for Advance

As to his second reason for the advance, he said, after the buying companies had curtailed their own production in March, the demand exceeded supplies by 900,000 bbls. and in April, May and June, demand approached record breaking levels—"the highest, in fact, for these same months in the history of the industry."

In March, he declared, the companies were not only short of advance estimates by 900,000 bbls., but the government had induced them to curtail production by 965,000 bbls., so they were "caught short" by 1,865,000 bbls. Again, in succeeding months, estimates were short of demand when the refinery division met to estimate the amount of gasoline each refiner could produce, and by the end of May the companies were 3,000,000 bbls. short of stocks necessary to meet the demand.

"In this situation the majors faced the need of finding 3,000,000 bbls. somewhere, and this amount, or about 15,000 tankcars, just about equals the amount purchased in the first several months," Shatford testified, and throughout 1935, he estimated, the demand ran about 20,000,000 bbls. in excess of estimates, partly because of a sudden increase in export demand which began during June.

With the court's permission, Colonel Donovan read a letter in which Ickes gave Shatford credit for the refinery allocations amendment which, the secretary wrote, "was one of the most successful features of the code."

On cross examination today, John A. Shatford said the oil industry paid the expenses of the code authority under an assessment system, and they were not paid by the government.

Prosecuting Attorney H. E. Chaffetz sought to show there was no actual shortage of gasoline in 1935, but Shatford declared seasonal requirements are as important as day-to-day requirement, and purchasing was a question of necessity, not policy.

J. A. WELCH

J. A. SHATFORD

R. R. IRWIN

Natural Gasoline

California's Production Unchanged in October

Natural gasoline production in California remained at 41,000 bbls. daily during October, while refinery utilization decreased 6,000 bbls. daily to 41,000 bbls. daily. Stocks decreased 5,000 bbls. daily during the month and amounted to 2,050,000 bbls. on October 31.

Daily average production of liquefied petroleum gases increased from 1,846 to 1,896 bbls., of which 494 bbls. were produced at refineries in October. Daily average sales increased from 1,885 to 1,897 bbls. Still gas production during October amounted to 1,970,538,000 feet, equivalent on a B.t.u. basis to 509,341 bbls. of fuel oil.

NATURAL GASOLINE PLANT OPERATIONS
OCTOBER, 1937

Field—	Gas treated (thou. cu. ft.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Elk Hills	57,500	122,176
Kettleman Hills	9,805,698	14,951,374
Midway-Sunset	1,373,158	2,326,365
Mountain View	724,656	827,137
Miscellaneous	4,261,090	2,573,187
Coastal district:		
Elwood	775,108	1,102,385
Rincon	161,218	222,442
Santa Maria	186,692	474,445
Ventura Avenue	3,476,256	4,499,981
Miscellaneous	595,468	567,971
Los Angeles Basin:		
Brea-Olinda Coyote	334,749	1,164,183
Dominquez	1,868,754	2,843,506
Huntington Beach	1,458,990	3,691,737
Inglewood	305,755	480,403
Long Beach	1,557,324	6,897,052
Playa del Rey	265,887	1,013,368
Richfield	226,960	549,033
Rosecrans	415,549	630,111
Santa Fe Springs	2,240,011	5,207,717
Seal Beach	500,688	778,666
Torrance	101,107	231,350
Miscellaneous	1,116,983	2,115,361
Total (all fields)	31,809,601	53,269,950

Distribution

	Gallons	Gallons
Stocks beginning of month	2,305,848	
Production during month	53,269,950	
Delivered to refineries		51,633,952
Delivered to jobbers, brokers or blenders		1,471,044
Blended at plants for production of motor fuel		8,422
Losses		74,195
Stocks end of month		2,388,185
Totals	55,575,798	55,575,798
Liquefied petroleum gas production	1,825,513 =	43,465 bbls.
Motor fuel produced	12,773 =	304 bbls.

Permit to Build Carbon Black Plant Granted Magnolia

Permit for the construction of a carbon black plant near Stonewall, Okla., on the edge of the Fitts pool has been granted the Magnolia Petroleum Co. by the Oklahoma Corporation Commission. The plant is to cost approximately $750,000 and will be in operation early next year. Residue gas from natural gasoline plants in the Fitts pool will be processed in the plant.

The commission recently granted a permit to Hagy, Harrington and Marsh, Inc., for a large carbon black plant near Guymon, in the Panhandle, and also gave a permit for a "Gastex" plant to the Atlas General Carbon Co., also to be located near Guymon.

Pipe Line Activity

Project for Line from Lisbon To Monroe, Louisiana

Barker & Woods are reported negotiating for purchase of 5,000 bbls. of crude oil daily in the Lisbon field of Claiborne and Lincoln parishes, North Louisiana, and if successful, the oil will be moved by pipe line to Monroe and thence by tanker to Houston. It was said unofficially the oil is for shipment to Italy. Barker & Woods expect to build 47 miles of 6-inch pipe line from the field to Monroe.

Lone Star Co. Will Extend Line into Leon County

SHREVEPORT, La.—Lone Star Gas Co. is clearing right of way for an 18-inch gas line to connect gas wells in the Buffalo area of Leon County, with its main 12-inch carrier extending from Lake Long into Central Texas. The connecting line, about 19 miles in length, will tie in near Buffalo.

Long Beach Line Relocated To Protect Residential Area

LOS ANGELES, Calif.—Sacrificing valuable right of way to foster further development of the north-central section of Long Beach as a residential district, Union Oil Co. is relocating one of its main pipe lines from Norwalk to the harbor entirely outside the subdivided area. The project involves removal of about 6 miles of the pipe line from the residential area and installation of a new 8-inch line west of the Flood Control Channel, in the west side of Long Beach at a cost of $33,000. Installation of this new line, between Anaheim and two Hundred Twenty-third streets, is nearing completion and the existing pipe line link will be removed soon, according to Union Oil Co. officials.

Relocation of the pipe line at its own expense was undertaken voluntarily by Union Oil Co. when executives decided continued operation of the line in its present location might possibly hamper progress in the development of the Long Beach section. Union laid this pipe line in 1900. Permanent right of way permitted the company to lay its lines diagonally across certain tracts, then vacant acreage north of the city. Later, this land was subdivided and many fine homes were built there. Recently, through the cooperation of the Long Beach city council, the county board of supervisors and property owners, relocation of the pipe line west of the city was made possible, and the construction work undertaken.

To avoid any injury to existing improvements, permanent streets were bored under to protect the surface and in other areas back-filling was so carefully completed that the location of the new line cannot be detected by the passer-by.

Plan Line from Miller County To a Railroad Outlet

SHREVEPORT, La.—Pipe line runs in the Miller County, Arkansas, section of the Rodessa field were voluntarily cut last week by the three companies serving the area, to protect producing properties across the Louisiana state line from the unprorated Arkansas sector. Plans for a 200-bbl. maximum for each of the 47 producers in the area went into effect during the week. One producer in the field announced plans for a line from Miller County production to a railroad outlet, at which the pipe line company connected to his wells agreed to take his production in excess of the agreed 200-bbl. maximum. The daily average production of the Arkansas sector of the field was 11,171 bbls. last week, approaching the proposed 10,000-bbl. prorated total set by the Arkansas Board of Conservation.

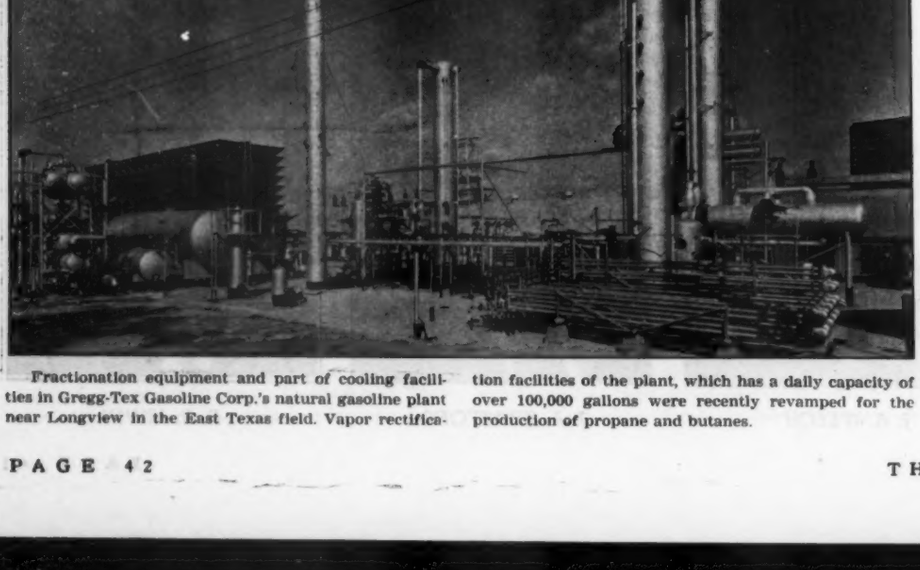
U. S. Supreme Court Denies Gas Pipe Line Injunction

WASHINGTON, D. C., Dec. 6.—The Supreme Court denied the Natural Gas Pipe Line Co. an injunction to prevent the Illinois Commerce Commission from investigating costs of gas sold in interstate commerce to its affiliated Chicago District Pipe Line Co. whose local gas rates were under commission investigation.

Natural Gas Developments In Dominion of Canada

WINDSOR, Ontario.—Windsor Gas Co. recently celebrated the sixtieth anniversary of the founding of its gas system. Starting in 1877 with a small artificial gas plant, the company since 1909 has distributed natural gas from the Tilbury field. In 1927 it was purchased by Union Gas Co. of Canada, Ltd., and materially extended its distributing system, installing four hortonspheres and a standby oil gas plant and holder. S. A. Morse is president and Gordon D. Wickett vice president and general manager.

GREGG-TEX GASOLINE CORP.'S LONGVIEW PLANT REVAMPED



Fractionation equipment and part of cooling facilities in Gregg-Tex Gasoline Corp.'s natural gasoline plant near Longview in the East Texas field. Vapor rectification facilities of the plant, which has a daily capacity of over 100,000 gallons were recently revamped for the production of propane and butanes.

Refinery Expansion

Status of Labor Controversies In Oil Industry Operations

The 76,000-bbl. refinery of Shell Petroleum Corp. at Deer Park, Tex., shutdown November 19 as a result of a strike by 900 of its 1,200 men, remains idle. The local Oil Workers Union, an affiliate of C.I.O., continues to picket the plant, and J. E. Crossland, local secretary, indicated he had mailed a statement this week to the National Labor Relations Board that the company has refused to bargain collectively and has engaged in efforts to intimidate the men and referred to the strike leaders as radicals.

Charges made by the union were promptly denied by Dr. R. H. Waser, manager of the refinery, who issued a brief statement which read, "It appears that the union representatives are now taking the action we suggested to our employes prior to the strike. We quote the following from a bulletin issued to all employes November 17:

"'If our inability to negotiate right now is a violation of the law, the labor board is there to protect you. Where legal means are provided, why strike?'

"We deny charges of intimidation and coercion and we prefer to refute specific charges before the National Labor Relations Board."

Company officials intimate no attempt will be made to reopen the plant pending settlement of the strike. The local is demanding that the company sign a contract with the union, an affiliate of the C.I.O. Since the expiration of the last contract a year ago the plant has been operated without a signed contract although the company has been abiding in full by the working agreements of that contract.

Pending reopening of the refinery, company officials state they will continue all crude purchases as usual. Although all crude coming into the refinery's tank farm at Deer Park cannot be moved out as company docks are also tied up with the strike, some of the crude is being rerouted to other company refineries for processing and filling of orders.

There apparently is no disposition on the part of men working in the East Chicago, Ind., Wood River, Ill., or Arkansas City, Kans., refineries to call a sympathetic walk-out. Conditions in the Shoreline Oil Co. plant at Lewis on the Gulf Coast near Houston continue practically unchanged after being idle three weeks. The crude connections the company has maintained in the Rodessa, Pine Island and Caddo districts are being released to other companies and a move has been made to abandon the Shreveport office. Pickets around the plant had maintained an orderly watch. Approximately 150 men have been made idle by the strike which was called by a C.I.O. affiliate.

Drilling has been suspended on properties of W. B. Pine in the Seminole area of Oklahoma as the result of a strike called several weeks ago. Congressman Lyle H. Boren introduced a bill December 2 calling for an investigation of the operations of the Pine company on the theory that continued operation of the company offered unfair competition to its competitors who, the representative states, are following the demands of the N.L.R. board. W. B. Pine has been granted a hearing on December 10 when the company will petition for a permanent injunction to prohibit the Oil Workers International (C.I.O.) from interfering with drilling in the Seminole area. At present 25 men are idle and the incident is receiving the attention of the government since the operations of the company involves Indian lands.

At a hearing conducted by a representative of the National Labor Relations Board at Muskogee, Okla., an accusation was made by a local C.I.O. affiliate that Pure Oil Co. had financed a publication which spoke unfavorably of C.I.O. The board has had to digest 1,500 pages of testimony and is accepting additional material and thus far has ruled only that the allegation the company published damaging comments is unfounded.

Protests by union leaders in the East Texas field against the Sunday shutdown are being made and a resolution has been presented to the Railroad Commission against further Sunday shutdowns. The suggestion was made that the Bureau of Mines take the bottom-hole pressures of wells instead of the state and companies in the future, but how this would eliminate the need for Sunday shutdowns was not made clear.

In Pennsylvania the new state workmen's compensation law is said to be unduly penalizing operators. The law is said to provide greater payments when some men are idle than when they work and while the law is scheduled to become effective January 1, a case is being developed to test its constitutionality. The state has been given until December 28 to answer the charge the law is unconstitutional.

Seamen on 19 tankers operated by Atlantic Refining Co. voted 223 out of a total of 371 not to join any union.

Amsco to Construct New Unit At Corpus Christi Plant

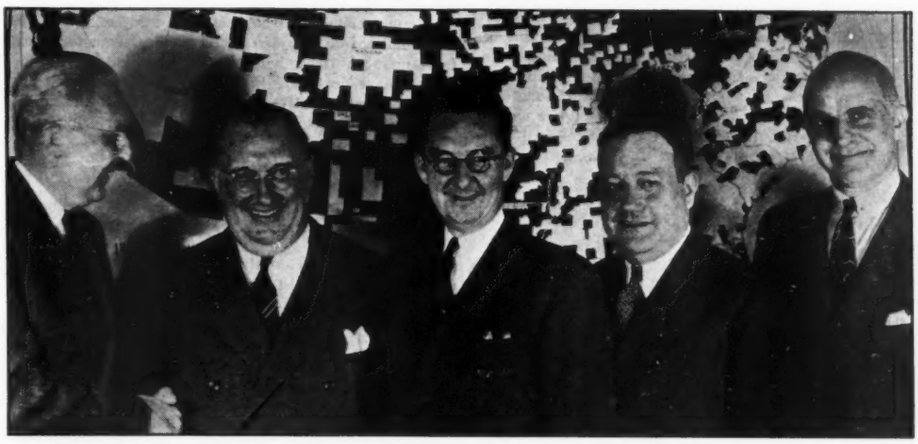
CORPUS CHRISTI, Tex.—Amsco Refining Corp. has announced that it would begin construction of a new 6,000-bbl. distillation unit at its refinery here. Construction of the unit is to start soon, and will cost approximately $500,000.

The company, which is a subsidiary of the American Mineral Spirits Co., recently completed a 12-mile 4-inch pipe line from the Luby field to Clarkwood where it intersects its trunk pipe line system. The field gathering system and pipe line of the Potter Pipe Line Co. were also purchased several months ago by the company.

Refiners to Hold Monthly Meeting in Kilgore

SHREVEPORT, La.—The regular monthly technical meeting of the Ark-La-Tex Division of the Western Petroleum Refiners Association, meeting in Kilgore, Tex., December 10, will feature a paper by W. B. Willson of the Roto Co. of Newark, N. J., on "Mechanical Tube Cleaners, Their Use and Care in Refineries."

Natural Gas News



J. F. Quinlan, director, home planning bureau; Merrill N. Davis, president, Association of Gas Appliance and Equipment Manufacturers; Hall M. Henry, assistant to president, Utility Management Corp.; N. C. McGowen, president, American Gas Association; and Howard Myers, publisher

Program for Fall Meeting of Pacific Coast Gas Association

The Pacific Coast Gas Association will hold a fall conference at the Fairmont Hotel in San Francisco on December 16 and 17, it has been announced by Arthur B. Allyne, chemist for Southern Counties Gas Co., serving as chairman of the technical section. Discussion of gas transmission problems will be led by Fred E. Wilson, superintendent of natural-gas transmission lines for Pacific Gas & Electric Co., and papers will be given by this group: "Effect of Pulsation on Various Types of Meter Gauges," by G. B. Reece, Southern Counties Gas Co.; "A Method of Direct Determination of Soil Conditions in Terms of Conductivity," by M. T. Burton, Southern California Gas Co.; "Repairs to High-Pressure Transmission Lines Without Service Interruption," by Fred E. Wilson.

A group led by A. B. Henby, Southern California Gas Co., will deliver the following papers: "Use of Neon Tubes for Ignition Timing in Compressor Plants," by Grove Laurence, superintendent of transmission for Southern California Gas Co.; "Effect of Large Valve Areas on Compressor Performance," by William C. Collyer, assistant manager, Ingersoll-Rand Co.

Other papers will be: "Improvements in the Conventional Pipe-Locator Design," by Frank R. Bater, San Diego Consolidated Gas & Electric Co.; "Experiments With Various Materials for Valve Covers and Seats in Positive Displacement Meters," by F. H. Winslow, Southern Counties Gas Co.; "Repairing Meters With Respect to Gammy Valves," by H. S. Harris, Southern California Gas Co.; "Methods and Equipment for Oil Fogging in Gas Transmission Lines," by J. L. Oberseider and R. P. Holman, Southern California Gas Co.; "Effect of Oil Fogging on Appliances," by T. R. Hayner of Southern California Gas Co.

The group will hold another similar conference in the spring, and the annual convention will be in midsummer.

Gas Production Increased In Texas During October

AUSTIN, Tex. — October production from 317 gas reservoirs containing 2,754 wells totaled 1,878,876,000 feet daily, the Railroad Commission reported in the monthly report of which 1,181,682,000 feet was sweet gas and 697,194,000 feet sour gas. Pipe lines took 24.74 per cent of dry gas for domestic and industrial light and fuel, while 4.37 per cent was used for lease development and operation and 70.89 per cent by gasoline plants for gasoline extraction.

The 134 gasoline plants reporting to the commission processed 2,230,680,000 feet daily from 34,609 oil wells and 1,044 gas wells, recovering 2,269,653 gallons of 26-70 grade gasoline and 197,686 gallons of butane-propane daily. The plants recovered an average of 1.017 gallons per 1,000 feet processed. Gasoline production was in equivalent of approximately 155,000 bbls. of oil daily.

Forty carbon black plants burned 929,807,000 feet of residue gas daily, producing 1,311,505 pounds of carbon black daily, an average of 1.41 pounds per 1,000 feet.

INTERNATIONAL NEWS

Mexican Court Denies Writ Against Expropriation Order

Denial of an injunction to Gen. Fortunato Zuazua who petitioned for a writ to prevent enforcement of President Lazaro Cardenas' decree expropriating about 350,000 acres of prospective oil land from Richmond Petroleum Co. served last week to becloud further the position of oil companies in Mexico.

General Zuazua was the original lessee of the acreage and was the assignor to Richmond Petroleum Co., subsidiary of Standard Oil Co. of California. The land withdrawn was invested in the National Petroleum Administration by President Cardenas' decree in November. In seizing the land the president overrode an earlier supreme court decision confirming the original concession and the transfer from General Zuazua to Richmond.

Meanwhile, the Labor Board reserved decision in the wage dispute. It is expected the decision will in substance, if not in detail, follow recommendations of the investigating committee which reported the companies' ability to pay higher wages to the extent of about $7,000,000 or $8,000,000 annually. The companies have protested vigorously against the findings and declare the recommendations would involve additional annual expenditure of about $18,000,000 in higher wages and social benefits. Decision of the Labor Board will be final under Mexican laws.

Developing New Structure In Palembang District

Development of production on a new structure in the Palembang district in Sumatra, Netherlands East Indies, by N. V. de Bataafsche Petroleum Maatschappij (Shell) was reported last week. Details of the pay thickness and depth were not available in New York, but the discovery well was said to be capable of about 1,000 bbls. of 45-degree A.P.I. gravity crude per day.

The discovery is about 10 to 15 kilometers west of settled production in the Limau field and between the latter and the Pendopo field. It was said the new producing horizon is considerably higher than the pay in the Limau field, but probably about the same from a stratigraphic standpoint.

Shell Acquires Exploration Concession in Guatemala

Aerial photographic examination of about 7,600,000 hectares in Guatemala acquired under concession contract by the recently formed Compania Guatemalteca de Petroleo Shell has been started. Other provisions of the contract, including a settlement with a previous concessionaire on part of the land are being complied with as rapidly as possible. The concession covers land in Peten, Alta Verapaz and part of Izabal. In 1925 the Sociedad Petrolera Izabal-Castellanos & Cia., Ltd., was authorized to undertake exploration surveys in Peten and in part of the department of Izabal. The territory covered approximately 1,560,000 hectares.

Although there exists question as to the validity of the contracts of the Sociedad Petrolera Izabal, the Compania Guatemalteca de Petroleo Shell agreed to purchase the former's exploration concessions. Under the agreement, the exploration contract of the Sociedad Petrolera Izabal were cancelled and new contracts were approved by the Guatemalan government in favor of the Compania Guatemalteca de Petroleo Shell, which agreed to pay to the Sociedad Petrolera Izabal 6 cents per hectare for the territory on which the latter had held exploration contracts. It was further agreed that on any territory included in the original contracts of the Sociedad Petrolera Izabal, on which the Compania Guatemalteca de Petroleo Shell secured exploitation right, the additional sum of 20 cents per hectare would be paid and a royalty of 2½ per cent of production is obtained. The agreement was approved by the Ministry of Fomento.

Contract has been made by Compania Guatemalteca de Petroleo Shell for complete aerial surveys of Peten, Alta Verapaz, and the section of Izabal in which the company has exploration rights. First members of the staff of the contracting aerial photograph firm have reached Guatemala and one plane made its initial flight over Peten November 6. A base for the survey work in Peten has been established at Paso Caballos and another is planned at Flores. The surveying of Alta Verapaz will be done from Guatemala City.

Some members of the geological staff of Compania Guatemalteca de Petroleo Shell are to be transferred to Guatemala in December, but the remainder will not arrive there until late in January. It is expected six to eight months will be required to complete the aerial survey work due to the rainy seasons interfering with flying.

Deep Production Developed In Northern India

Deep production developed in northern India near Dhulian by Attock Oil Co. is gradually assuming more importance, although depth of the pay and restrictions of the market limit its significance. By deepening its third deep test at Dhulian Attock Oil Co. increased output to a reported peak of 800 bbls. per day. The increased production developed after the hole was drilled from 7,644 to 7,659 feet. During the first 24-hour test after deepening the well produced 435 bbls. and during the second day output increased to 800 bbls. From the original completion depth, the well produced 250 bbls. per day.

The discovery well was completed five months ago and is reported to have produced steadily since at the rate of 500 bbls. per day. The latest completion is about 2,000 feet southeast of the discovery and is about 4,000 feet east by 10 degrees south of the first deep hole drilled which encountered a showing of oil at 7,850 feet early in 1936.

Discovery in Southern Hungary May Prove to Be Important

What appears to be a substantial discovery oil well in southern Hungary, European Gas & Electric Co. No. 2 Budafaputza, near Lispe, was idle last week until storage facilities are obtained and the well conditioned for testing. On its initial performance late in November, it was reported capable of producing approximately 500 bbls. daily from 3,962 feet. European Gas & Electric Co. is an affiliate of Standard Oil Co. (New Jersey).

The original reports stated the well's production increased during the latter stages of preliminary test and that its output might reach 1,500 bbls. or more per day when properly conditioned. If the well attains production of 1,500 bbls. per day, it would be capable of supplying a substantial part of Hungary's consumption. Hungary is almost exclusively dependent on outside supplies of petroleum, drawing most of its requirements from Rumania. However, the strained currency exchange conditions in recent months between Hungary and Rumania probably have held that trade to a minimum.

The first test drilled on the Lispe structure was for the purpose of developing a natural gas supply for Budapest. The first well resulted in substantial gas production, shut in temporarily. Several months later, the gas well was reopened and responded by producing about 10 bbls. of high-gravity crude oil along with gas.

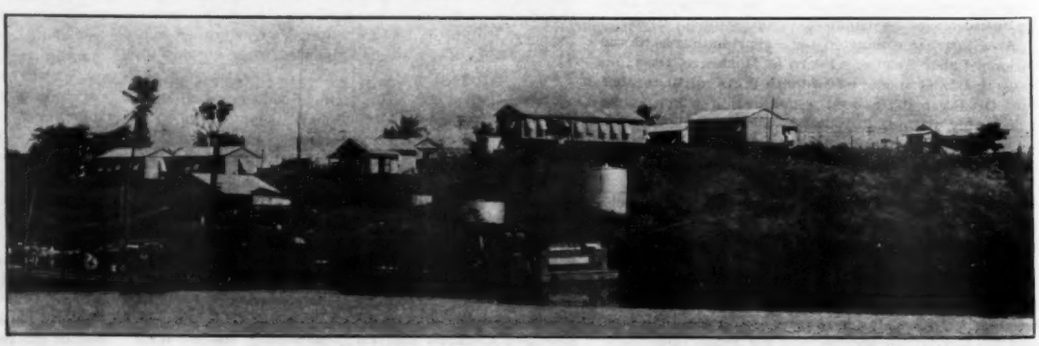
Previously developed production at Bokkazek in the Bukk Hills, northeast of Budapest was small. This particular production is shallow, from around 700 feet.

Sweden Experimenting With New Gasoline Substitute

Extraction of motor and other liquid fuels from wood on a commercial scale is to be attempted in Sweden as soon as the factory, now under construction, is completed, according to William W. Corcoran, U. S. consul at Goteborg. The factory, owned by the Aktiebolaget Skanska Attiksfabriken, is being erected at Perstorp, in the province of Skana, in southern Sweden. Those backing the venture decline to discuss details. A report published in Sweden states that as much as 35 per cent of the raw material, wood, sawdust, plup, charcoal, tar, etc., can be extracted as liquid fuel in addition to other products. The method is said to have been developed by two Swedish engineers working on behalf of the Engineers Scientific Acadamy in Stockholm. These engineers, Hilding Bergstrom and Karl Cederquist, are said to have perfected the method after 10 years of research and experiments.

The Swedish Engineers Scientific Academy began experimenting 10 years ago, based first on German methods which were found to be too costly for Swedish industry because of labor and raw materials. Efforts were then made in other directions with the result extraction of such fluids is now said to be possible by a method entirely different from German processes and sufficiently inexpensive to make it commercially profitable. It is said practical demonstrations have been carried out during recent months in a small factory at Marieberg. Production is said to have been delayed by inability to obtain the necessary machinery and equipment, but the new plant is now scheduled for completion during early next spring.

The Aktiebolaget Skanska Attikefabriken in Perstorp produces charcoal, acetic acid, vinegar products, carbolineum, bakelite, wood furniture, parquet flooring and electric fittings.



Staff camp at Pedernales, eastern Venezuela

ENGINEERING AND OPERATING SECTION

Presenting modern developments in operation of producing properties, refineries and gasoline plants, and pipe lines, including petroleum research in the field and laboratory

This Week

ELECTRICAL POWER ADOPTION LEADS SAFETY DEVELOPMENT IN REFINING INDUSTRY—By George Weber ..... **Page 46**

In the second of three articles prepared to show trends in the use of electrical power in Gulf Coast refineries, advances made in the safety and control of equipment are discussed. Types of motors for use in hazardous areas, remote control equipment, under-voltage protection devices and other safety features of modern Gulf Coast refineries are described.

OHIO OIL CO. BUILDS COOPERATIVE PLANT FOR DISPOSAL OF WATER—By Paul Reed ..... **Page 48**

Oil companies have made decided progress in recent years in the technique of preparing brines for injection in water-flooding and salt-water disposal operations. Ohio Oil Co. is now operating a cooperative disposal plant in the Edmond pool of Oklahoma that is proving very efficient and economical.

CONDENSING STILL VAPORS WITH STABILIZER TOWER FRACTIONS—By Henry Cooney ..... **Page 53**

In the routine operation of a natural gasoline plant some fractions are discarded that are very desirable as a refrigerant. In order to utilize this energy, the author suggests a method of using the stabilizer discard to condense the still vapors. Features of the method are that the load on the stabilizing unit is reduced and a better feed and reflux is provided.

MICHIGAN LIMESTONE FORMATIONS SUITED FOR SALT WATER DISPOSAL—By L. G. E. Bignell ..... **Page 55**

Since the largest Michigan fields produce from either limestone or Dolomite it is to be expected that all wells would make some salt water. Various formations were tested to determine their capacity to take salt water and studies made of the use of acid to increase their water-taking capacity.

COMPRESSED AIR USED TO CLEAN WELLS ON PROPERTIES BEING REPRESSURED—By J. P. O'Donnell **Page 60**

On properties in Middle District Pennsylvania fields use of compressed air to clean out oil wells has been found to be very economical, particularly where secondary recovery operations are under way. Type of equipment used and its operation are described.

ILLUSTRATED OPERATING IDEAS ..... **Page 65**

Locomotive furnishes steam to plant while boilers are replaced. Auxiliary tank reduces back pressure on well. Portable transformer on drilling rig. Portable bullwheel for clean-out and swabbing work.

PROGRESS IN METALS—By W. L. Nelson ..... **Page 66**

Impact strength of welds and plate at low temperatures. Overheating pipe-still tubes. Use of long drill collars allows faster drilling speeds.

CORROSION TESTING OF METALS AND ALLOYS USED IN REFINERIES—By D. R. Crampton and N. W. Mitchell ..... **Page 69**

To determine in advance the behavior of a metal or alloy under corrosive conditions in a refinery, equipment manufacturers perform extensive tests on their product to determine its suitability. Here, a method involving the use of tensile strength losses to estimate corrosion resistance of copper alloys is described.

PROBLEMS FROM READERS—By L. G. E. Bignell **Page 73**

QUESTIONS ON TECHNOLOGY—By C. K. Francis, Ph. D. ..... **Page 74**

Electrical Power Adoption Development in Refining

By GEORGE WEBER

Widespread adoption of electricity in the refining industry is due in a large part to the advances made in the safety and control of electrical equipment. Oil refining rates among the most hazardous of industries, in relation to fire and explosion. It is therefore of prime importance, in locations where explosive gases exist, that electrical equipment operate without the possibility of a spark. In the development of safety equipment, refining engineers have greatly aided electrical equipment manufacturers.

As regards motors, three types are in general use in hazardous areas: totally enclosed, totally enclosed fan-cooled, and base or pipe ventilated. Totally enclosed motors are applicable with success to only the smallest of installations. The rotor is completely encased in a heavy jacket, and the lack of sufficient heat transfer to the outside limits the size and load of the unit. Medium sizes are costly and generally inefficient in this type of motor, and large units are impossible at the present.

Totally enclosed fan-cooled motors are an improvement on the simple enclosed motors, in that heat exchange is provided between the inner part of the motor and a second outer jacket. Two fans actuated from the drive shaft circulate the air inside the motor, and also draw outside air through the outer jacket, which is open at the ends. The constant movement of the two currents, and increased heat exchange thus accomplished, allows the operation of this type in larger models. Explosion-resisting motors of the totally enclosed fan-cooled type are available from 2 to 200 horsepower in size, making this type the most widely used of the safety type units.

A third design, pipe or base ventilated, features the direct cooling of the motor by an air current brought in from a remote, nonhazardous location. Due to the complexity of the air duct system, their use is limited.

Electrical Safety Far Advanced

The electrical industry has made great strides in the adoption of explosion-proof motors, and in removal of hazardous fire and explosive conditions in and around plants. Installation of motors and control equipment of that type has closely followed the development of approved equipment in the past few years. In fact, progress has been so great that safety engineering in electrical departments of refineries is considered to have advanced beyond the safety measures in other phases of the industry.

Utilization of the new type of enclosed motor is illustrated by the fact that an average of 15 per cent of the total electrical motors in Gulf Coast refineries are now explosion-proof or explosion-resisting. The elimination of much outside danger, in areas where refinery gases formerly constituted a hazard, has reduced the need for such equipment, making the high percentage of safety installations even more significant. The determination of hazardous locations is in many cases purely arbitrary. It is greatly to the credit of Gulf Coast refiners, however, that any area which might conceivably be considered dangerous from an explosion or fire standpoint is so designated and steps are taken to protect workmen and property in that area.

Elimination of fire and explosion hazards is as much a matter of reducing them initially, or preventing their existence, as in meeting them with safety equipment. In this respect, an important trend is under way in Gulf Coast refineries. Due to the mild climate, it is possible to design pump houses and similar locations where inflammable fluids are handled, with open sides. In a number of recent installations, charging, hot oil, transfer and storage pumps are set in the open with only overhead weather protection provided. With the increased ventilation afforded, the fire hazard is materially reduced.

In locations where open installations are not feasible, added ventilation is provided by larger windows or forced draft to rid the atmosphere of possible explosive mixtures of gas and air. Generally speaking, hazardous conditions are considered to exist around pipe lines or storage tanks, in pump houses where light oils are handled, between and under cooling boxes, and in the vicinity of valves, vent pipes and heaters. Any low spot or pocket on the refinery site is a potential hazard, as it allows the collection of explosive mixtures of heavy gases.

Weather-proof pumping units being installed at a new Gulf Coast refinery to handle the loading of refinery products and crude

In many areas the hazard cannot be effectively eliminated and the only choice is to install safety equipment throughout. A generally adopted method for removal of electrical motors from such danger spots is by use of the fire wall. Hot-oil pumping, loading and transfer pumping is in many cases accomplished by isolated motors driving pumps through air-tight shafts in a brick or metal wall. The partition may be inside, as is often the case, with a battery of hot-oil charging pumps. A common practice in powering loading pumps is to house the motor and install the centrifugal pump in the open with the drive-shaft extending through the wall of the shed.

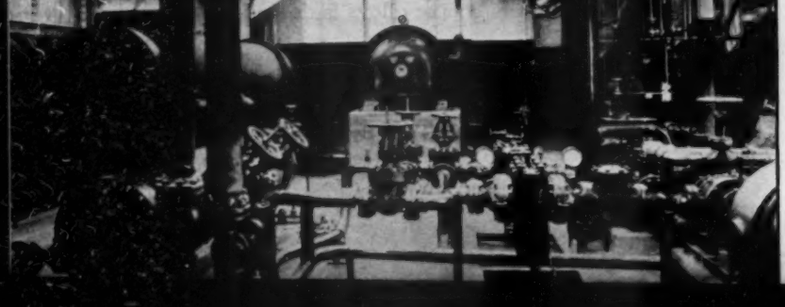
Fire Hazard Problem

In dealing with a hazard problem, economy demands that the first attempt must be in the direction of removing the hazard. Explosion-proof motors are relatively expensive, and the costs mount as the size of the units increase. For motors up to 30 hp., the explosion-proof models are approximately 30 per cent higher in price than ordinary open types. The cost of 50-hp. motors approximates a 50 per cent increase in safety equipment cost, and for 100-hp. sizes the cost of enclosed motors is practically doubled.

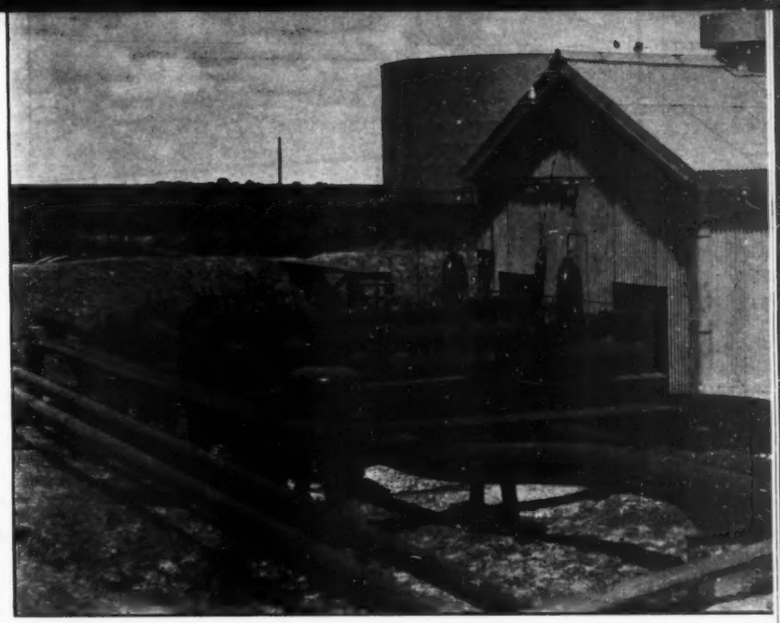
Proper control of motors and design of auxiliary electrical equipment is of prime importance in refinery safety. In many cases, the starting and stopping switches, circuit breakers and busses for electrical motors in hazardous locations can be located outside the danger zone, and connected to the motor through sealed conduits. Installations of that sort have been made up to 200 feet from the motor. Auxiliary control points are also commonly added to control certain refinery units, providing a point from which the unit may be shut down in case of emergency, or inaccessibility of the main control point.

Where remote control is impractical, oil-immersed safety switches and controllers are used. Here again, safety and explosion-proof equipment differ. Switches which are oil immersed for protection against corrosion are not essentially explosion-proof. The definition of explosion-proof panel boards and controls is found in Article 32 of the National Electrical Code. In addition to the fire hazard, auxiliary electrical equipment forms a threat of personal injury through electrocution. Mishaps of that type are caused either by accidental contact with live circuits or contact with a supposed dead line. The development of dead front panel control boards by electrical manufacturers has greatly eliminated that hazard.

Fuel oil pumps, exciters and other auxiliary equipment installed in new power plants, utilize considerable electrical power in themselves



Leads Safety Industry



A new departure from the centralized pump houses ordinarily used in loading products is found in this unit. The centrifugal pumps are installed in the open while the electrical motors are housed in the shed, a fire wall separating them to prevent the possibility of fire

There still exists many dangers in transmission and handling of electricity in refineries. In welding work about a plant, considerable care is taken in removing any trace of hazard from gases or inflammable liquids. The use of extension cords constitutes another danger. Safety extension cords in general use throughout refineries on the Gulf Coast embody several features. To prevent disconnection when in use, and the attendent spark jump, new cord plugs lock in place in the socket until the circuit has been opened.

Lighting equipment in refineries consists of sealed vapor-proof globes as standard equipment. On hazardous locations, a special explosion-proof glass seal is placed over the light, consisting of a much heavier globe than is ordinarily used in other locations. A good safety practice followed in refineries is the rule that only electricians should be allowed to install or repair electrical equipment or distribution lines. Rubber gloves and hot sticks are regularly employed in such work.

Proper control of electrical motor operation is an important safety factor. Motors themselves must be protected against overload, short circuit and under voltage. Overload of a motor includes full rated load up to and including 400 per cent of the normal rating. A short circuit will produce overcurrents of from 6 to 10 times the rated load current.

Ideal protective devices for control of motors must be actuated by the same conditions under which the motor operates. In that respect heater strips have been found superior to fuses or other types of circuit breakers. Connected in the circuit with the motor, the heater strip temperature follows closely the temperature of the motor, automatically breaking the circuit when temperatures approach the danger point. By allowing the motor to operate until damage is imminent, heater strip controls eliminate costly shutdowns, excepting when necessary.

Another point in the favor of that type of control is the fact that they operate in the same surroundings as the motor, cutting off operation sooner in locations of high ambient temperatures, and allowing greater over-

Second of the series of articles prepared to depict trends in the use of electrical power in Gulf Coast refineries. The first article appeared on page 32 of the December 2 issue and the final will appear in a subsequent issue.

load in low temperature conditions. Also, heater strips may not be immediately reset after breaking circuit, until they have sufficiently cooled; an added protection to the motor in allowing it also to cool before restarting. Short circuit protectors must act quickly to prevent sudden damage to motors through high short-circuited currents. They usually supplement heater strips in motor protection from over currents.

Under-voltage protection is provided by devices which are installed on motor circuits to cut out motors in case of low power surges to 50 per cent normal voltage or less, or complete power failure. Under-voltage protection consists of a cut-off or power requiring manual restarting.

Under-voltage release, on the other hand, provides for dropping out under the same conditions, save that upon resumption of power, the motor is automatically restarted. The complexity of operations in many modern distillation, cracking and treating units, and the interdependence of all phases of flow, requires in many cases that following power failure, manual restarting be necessary before the unit is again placed in operation. This practice gives the operator a chance to check on liquid levels, temperatures and pressures in the various sections of the unit to correct any dangerous condition, and make certain that it is safe to place the unit again in line. For less important functions, such as in loading or water pumping, automatic restarting is practical.

In under-voltage protection, a device for the timing of the drop-out is of value in some refining operations where complete shutdown is costly, and even momentary cut-out throws the process off balance. With this protection, when power surges drop below the 50 per cent mark, instead of immediately cutting the circuit, the motor is left on the line for a short period of from one to two seconds.

In some cases an under-voltage setting of 70 per cent is made, a more modern practice over the standard 50 per cent safety setting. This practice is variable throughout the different refineries, depending on the policy of the individual engineers. Controls of this type in various Gulf Coast plants are set to allow motors to ride under-voltage surges of from 70 to 50 per cent of normal voltage. Since the greater share of under-voltage trouble consists of momentary power interruptions and surges lasting for less than two seconds, shutdowns are greatly reduced through use of this device. The reduction of voltage over so short a time as two seconds is not enough to show a perceptible effect in the motor's operation.

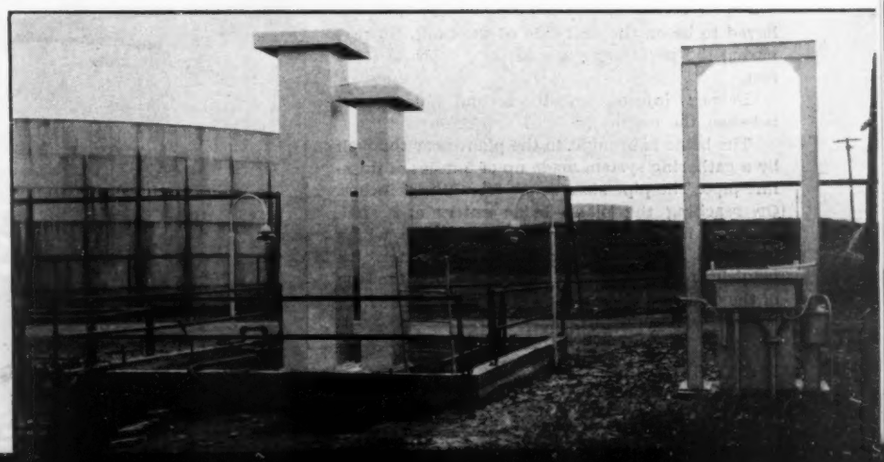
Synchronous Motor Control

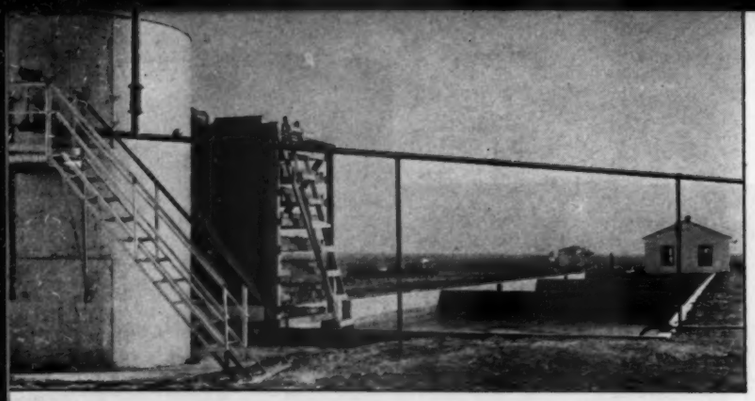
Synchronous motor control consists of overload, short circuit, and under-voltage protection, and in addition, protection against motor slip and line fluctuation resulting from it. In starting, the synchronous motor may draw full voltage, or, in semimagnetic starting, the motor may later be brought to normal operation. In the latter procedure, the unit is started as an induction motor, and as speed is attained, the field excitation in the squirrel-cage winding is automatically cut in, bringing the rotor to synchronous speed.

In case of slip in the synchronous motor, a current is set up in the field of the rotor, proportional to the difference between the actual and synchronous speeds. When slip reaches a point where the high frequency and amperage induced in the rotor field becomes dangerous, a heater strip connected in the circuit cuts out the motor. The device providing this protection is termed a temperature squirrel-cage protective relay. In addition, synchronous motors are equipped with power factor field removal relays. In case of slip in the motor, the resultant surging effects on the circuit are eliminated by cutting out field excitation.

Protective units on motors are placed in the circuit ahead of the control, and usually ahead of the branch feeder circuits, thus isolating the individual circuit from the system in case of trouble, and preventing short circuits in the motor. Whenever possible, controls are placed away from hazardous locations. For explosion-proof requirements, controls are immersed in oil to a depth of 6 inches or more and are housed in heavy cast iron to prevent escape of gases in case of internal explosion.

Loading-pump powered by an induction motor enclosed in a weather-proof, base-ventilated casing. The units are installed below ground level to maintain a head on the centrifugal pumps.





Ohio Oil Co.'s salt water disposal plant showing the separator, aerator, settling basin, filters and pump house

Ohio Oil Co. Builds Cooperative Plant for Disposal of Water

By PAUL REED

The growing interest of production engineers in the most effective means for providing aeration and filtration in preparing brines for injection into underground formations, in connection with water-flooding and disposal operations, prompts the inspection of each new plant. Progress in the general technique may be seen in the plant just completed in the Edmond, Okla., pool by the Ohio Oil Co. The project is noteworthy both for the practices adopted and the cooperative manner in which the project is conducted.

After observing the provisions made for handling underground water disposal where the plant is located, the office of the corporation commission of Oklahoma has made a point of especially commending the engineering which has been applied to the problem.

Receives Commendations

In the spring of this year, the commission issued the first permit ever granted in the state for the disposal of oil field brine to underground formations. This permit allowed the Ohio Oil Co. to utilize the E. D. Yeager well No. 1 in the southeast part of the Edmond pool for disposing of salt water from its own wells and from the wells of the Continental Oil Co., Mid-Continent Petroleum Corp., Amerada Petroleum Corp., and the Transwestern Oil Co. The project is designated by the Ohio Oil Co. organization as the Edmond Salt Water Disposal System; it has been designed by I. R. Collier with the assistance of C. H. Blue, both Ohio Oil Co. engineers.

At present the 2,000 bbls. of brine being injected into this well comes from 36 wells. Previously the water had been impounded in earthen tanks. The well was originally a 7,000-foot dry hole, believed to be on the east side of the fault. In preparing the well casing was set at a depth of 6,707 feet.

Brine is injected into the second Wilcox sand between the depths of 6,755 and 6,905 feet.

The brine is brought to the plant near the well by a gathering system made up of 5 miles of duraline pipe. The pipe sizes range from 2 to 4 inches. On reaching the plant, brine enters a 200-bbl. wrought iron tank lined with bitumastic which serves as a separator for the oil and water. Oil emulsions and b.s. are skimmed from the top of the tank and are syphoned to an open pit where the materials are burned.

From a point 2 feet from the bottom of the tank, an 8-inch line extends to the top of the aerator. On top the aerator the brine flows through a manifold and into nine perforated nipples of 2-inch pipe. From these the brine trickles down over coke held on eight redwood trays made with slats, (3′ x ⅜″ x ¾″), spaced one-fourth inch apart. Since the aerator is placed directly over the end of the settling basin, brine from the aerator drops directly into the basin. The inside dimensions of the settling basin are 30′ x 190′ x 6′.

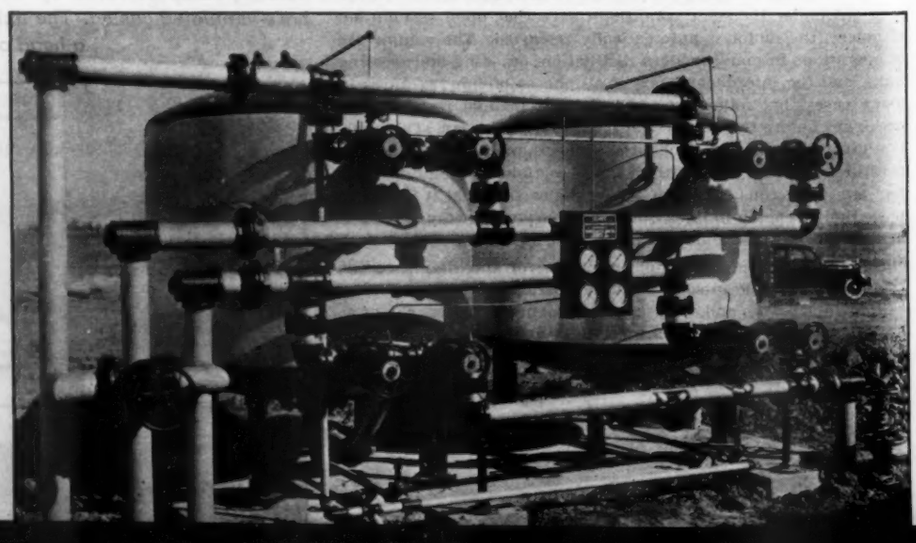
Two walls divide the basin into three equal compartments. Brine is syphoned from one compartment to the next by a 6⅝-inch pipe near one end of the wall. In order to provide the longest possible travel in the tank, the syphon in the second wall is placed on the side of the basin which is opposite the side where the first syphon is located. The syphons are made in the form of an inverted "J," with suction (at end of long leg) placed 1 foot from the bottom. In each case, the syphon passes through to the other compartment near the top of the wall and discharges at a point a short distance below the surface. The suction end is placed near the bottom for the purpose of avoiding carrying over surface scum into the next compartment. This is particularly important when a large slug of oil gets into the system at night when there is no attendant at the plant. By eliminating the need of a night shift, the low suctions of these syphons make it possible to cut in half the operating labor expense.

The basin is of reinforced concrete construction with two expansion joints, directly behind pilasters, on each of the side walls. The walls are 9½ inches wide at the bottom and 8 inches wide on top. When filled to a depth of 5 feet the basin will hold 5,000 bbls.

At the end of the basin, opposite the aerator, brine is picked up by a Goulds 2-inch centrifugal pump driven by a Wisconsin 5.4-hp. gas engine and pumped through the filters. The plant is equipped with two Type S. Scaife filters, 72 inches in diameter with a rated capacity for each of 2,900 bbls. per day. This is a conventional pressure filter using sand and gravel as the filtering medium. These filters are of the same type used at the Gulf experimental plant in East Texas. The filters are backwashed once every 24 hours; for this purpose a 4-inch Goulds centrifugal pump operating at 20 to 25 pounds, driven by a Wisconsin 14.5-hp. gas engine, is provided. From the filter, brine flows into a concrete well (10′ x 10′ x 8′) from which it normally flows by gravity through 80 feet of 4-inch duraline pipe. Pumping equipment is provided for injecting brine into the well but it has only been used five or six times during the six weeks the plant has been operating. On these occasions pumping was necessary when air got in the hole owing to interruptions in operation. Pumping equipment for injection includes a 2½″ x 5″ x 10″ Gaso duplex piston pump driven by a 5¼″ x 6½″ six-cylinder Allis-Chalmers gas engine.

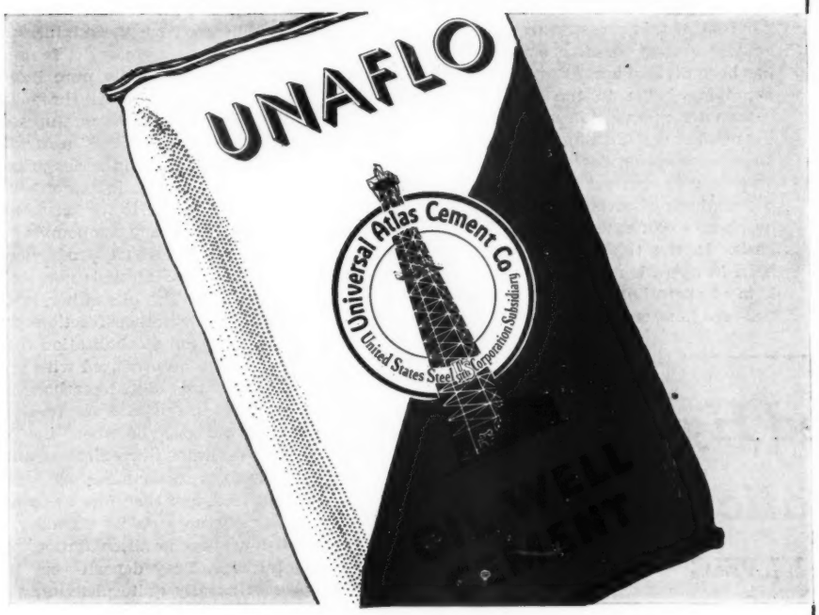
So far the disposal well has taken the brine

Pressure filters in the cooperative disposal plant at Edmond, Okla.



NEW WORLD'S RECORD

in oil well cementing!



1500 bags of Unaflo cement pumped 11,342 feet with maximum pressure of 1400 pounds per square inch

Here are the quick facts on the most outstanding oil well cementing job to date—

Total depth of well—11,342 feet. Bottom hole temperature—236° F.

1500 bags of Unaflo mixed 15.8 pounds per gallon with two Halliburton trucks.

Mixing time—35 minutes.

Pumped down with two 20″ slush pumps (6″ liners). Pumps not compounded.

Pump-down time—18 minutes and 15 seconds.

Plug landed with maximum pump pressure of 1400 pounds per square inch.

No ice used.

Cement drilled from plug was hard and dense.

These low pump pressures signify:

1. Unaflo cement retains fluidity at highest known oil well temperatures.
2. Unaflo cement goes into place as a fluid cement slurry.
3. After it sets up, Unaflo slurry forms an impermeable seal against migrating subsurface fluids.
4. Unaflo cement is the economical oil well cement.

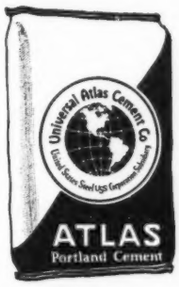
Try it on your next job!

UNIVERSAL ATLAS CEMENT CO.

United States Steel Corporation Subsidiary

AMICABLE BLDG., WACO, TEXAS; KANSAS CITY; TULSA; OKLAHOMA CITY

A Cement for Every Oil Company Use at Oil Well, Refinery and Filling Station



Atlas portland cement for *surface* work and for cementing *surface* casing. Unaflo cement is recommended for *deep* well work.

Lumnite cement is used in Oil Refineries for making Refractory, Insulating and Heat-Resistant Concrete Linings in Still Furnace Walls, Bottoms, Roofs, Foundations; Ducts, Flues and Stack Linings; Tube Sheet Insulation.

Lumnite cement makes Corrosion-Resistant Concrete and Mortar Lining in Distillation and Cracking Units; Re-Run Stills; Absorption Systems; Chemical Treating and Ethyl Plants.

Atlas White the cement that is pure *white* and non-staining. Exceeds specification requirements for portland cement strength. Ideal for ornamental work in connection with service station construction and repair.

U-16

Universal Atlas
CEMENTS

readily; in fact there has been a noticeable increase in the rate at which it will take the injected brine.

Brine received at the plant from the wells has been analyzed as follows:

PHYSICAL CHARACTERISTICS

	Parts per million
Suspended matter	58
Turbidity	58

Color: Slight yellow due to iron oxide.
Odor: Oily.

CHEMICAL CHARACTERISTICS

	Parts per million
Total hardness, as $CaCO_3$	9225
Calcium hardness, as $CaCO_3$	6925
Magnesium hardness, as $CaCO_3$	2300
Alkalinity, as $CaCO_3$	104
Sodium salts	36300
Total dissolved solids	46193
Iron as Fe	0 8
Manganese	n.d.
Mineral acidity	0 0
Oxygen consumed	n.d.
pH	7.1

HYPOTHETICAL COMBINATIONS

	Parts per million
Calcium carbonate	104
Calcium sulfate	148
Calcium chloride	7450
Magnesium carbonate	0 0
Magnesium sulfate	0.0
Magnesium chloride	2180
Iron oxide (unfiltered sample)	1.1
(Sample filtered through paper)	n.d.
Silica	10
Sodium sulfate	0.0
Sodium chloride	36300
Sodium carbonate	0 0
Free carbon dioxide	24
Hydrogen sulfide	n.d.
Total sulfates, chlorides and sodium carbonate	46078

The total cost of the water-disposal system, approximating $52,000, has been divided among the five companies participating in this cooperative undertaking, on the following basis: Twenty-five per cent of this investment cost has been divided equally among the five companies; 75 per cent has been divided according to the number of wells supplying brine to the project. Operating expenses are charged to each company according to the number of wells supplying brine to the project; statements are rendered on the 15th of the month according to contract arrangements which set out the methods of accounting and the way in which overhead expense shall be charged on a pro rata basis. In the time during which the plant has been in operation since October 15, the principal item of operating expense has been the wages of two men in attendance at the plant.

Treating Saturated Hydrocarbons to Produce Aliphatic Compounds

By DR. J. J. PELC
Chicago, Ill.

One of the interesting reactions the saturated hydrocarbons can undergo is the treatment discovered lately, of the aliphatic and cyclic saturated hydrocarbons with an aliphatic aldehyde or ketone, in comparatively dry condition and in the presence of catalytic agents. The novel process is described at length in my U. S. Patent No. 2,011,199 and latter domestic and foreign patents and applications.

It is probably of general interest to mention briefly in this short description the more important features of the process and the possible uses in the chemical and oil industry, as the new treatment of hydrocarbons was received with great deal of attention.

Formolite reaction is well described in chemical and petroleum technological literature. Nastyukoff (J. Soc. Chem. Ind. 23, 1,082, 1904) thought that it was the reaction of unsaturated compounds. Others, especially Gurwitsch, seemed to have shared this viewpoint in a general way. Ormondy and Craven (J. Inst. Petr. Tehn. 10, 99, 1924) investigated the uses of hydrochloric acid, instead of sulfuric, in connection with the formalin for the removal of olefins from the cracked spirits.

Other investigators, Marcusson among them (Mitt. a.d. Materialpruefungsamte, 1922, 308, etc.) observed that the products of the formolite reaction resembled not only the formaldehyde condensation products, but that certain substances were also formed which were showing comparatively high acetyl values proving, therefore, the presence of compounds with carbonyl grouping and possibly also the presence of alcohols.

Rutlerow (L.A. 180, 247, 189, 48, etc.) pointed out that certain hydrocarbons with dimethyl grouping in the end carbon atom were easily decomposed in dilute acid solutions yielding mixtures of aldehydes, alcohols and olefines. The yields are however, quite low and the isohydrocarbons not so very abundant as to be utilized for the production of commercially important substances.

Normally, exceptions are not impossible, no such isohydrocarbons are formed by the treatment under the discussion, so the similarity is purely of theoretical interest in connection with the fact that the complexes and additive compounds are also formed usually in the end carbon atom of the hydrocarbon chain.

The novelty of the reaction described fully in the U. S. Patent No. 2,011,199, etc., is, therefore, due to the fact that not only unsaturated compounds, as was assumed previously but also the saturated hydrocarbons, primary compounds included, can react in the presence of catalytic agents with aliphatic aldehydes other than formaldehydes and in addition also with aliphatic ketones. The rate of the reactions is, however, influenced by the state of dryness of the carbonyl compound and by the properties of the reacting hydrocarbon. It is also evident that the selection of catalyst is of importance, as with certain catalysts additive compounds only are formed.

The reaction specifically is based on the formation of complexes consisting of a catalytic agent, f.i., sulfuric acid, the saturated hydrocarbon and the aldehyde or ketone used. The complexes especially in the higher paraffin series are comparatively stable and with proper precautions they can be isolated without disturbing the hormathy of the hydrocarbon. The additive compounds in many cases can also be isolated. They consist of the hydrocarbon and the aldehyde or ketone used which under the influence of the catalyst react usually by simple transfer of one hydrogen from the hydrocarbon to the oxygen of the carbonyl compound. By further treatment and decomposition olefines or alcohols derived from the saturated hydrocarbons can be obtained. It is, however, to be emphasized here that all these reactions can be performed in one operation without trying to isolate the complexes or additive compounds.

The decomposition may be simple hydrolysis, neutralization with alkali or both. In this way pure alcohols from the saturated hydrocarbons can be produced in a comparatively easy, inexpensive way and in decent yields. Olefines especially in the higher paraffin series can be obtained either directly or by proper decomposition under certain conditions, if it is desirable to isolate them first and produce their respective alcohols from them afterwards. Disregarding, therefore, the complexes and the additive compounds the most important industrially are the olefines and alcohols especially of the higher paraffin series.

Pure, individual alcohols and olefins can be isolated even from the mixtures of hydrocarbons, although in many cases it is much better to use pure or comparatively pure individual hydrocarbons for the process. All three classes of alcohols are produced from the mixtures of hydrocarbons, but it was observed that in certain cases, namely in the higher paraffin series primary alcohols can predominate to certain extent, which phenomenon may be attributed to partial molecular rearrangement of the tertiary compounds.

For the industrial production of alcoholized fuel oils neither alcohols nor olefines have to be isolated first. The oils either in their total crude oil distillate or in their fractions can be alcoholized directly. Partial alcoholization from about 5 to 10 per cent can be produced with minimum expense in the mixtures of hydrocarbons used not only for light motors, but also for diesel engines, house-heating purposes or where the presence of alcohols is desirable in lubricating oils.

The tests so far made show that such directly alcoholized, and therefore oxygenated oils deposit practically no gum on standing, give higher efficiency, show no discoloration, as they are highly purified. They deposit very little carbon and possess usually quite pleasant, alcoholic odor. In this way, therefore, much improved fuel oils can be produced not only for automobiles, but also for the airplanes.

The difference between the direct alcoholization of this process and simple admixture of alcohols to the oils is evident. One of the numerous modifications of the treatment is the process of catalytic carbonylation. In this case not only the catalyst, but even the aldehyde or ketone used can be recovered. The carbonyl compounds are recovered either in their original form, if an excess was used, or as their corresponding primary respective secondary alcohols. Direct alcoholized fuel oils can be made by catalytic carbonylation in quite an easy, quick way and at low expense. Oils produced in this way are also very pure, in some cases having high antiknock properties. The alcohol content derived directly from the saturated hydrocarbons is usually in the neighborhood of 10 per cent.

Diesel Increasing in England

The growth in popularity of the diesel motor in England is evidenced by the fact that 12,500 public service buses equipped with diesel motors are in operation there today compared with only 2,400 diesel-motored buses in operation three years ago, according to a report by the American consulate general, London, made public by the department of commerce. As a further example of the popularity of the diesel in England, the report stated that of the total number of new passenger vehicles registered in England this year, 69 per cent were equipped with diesel motors.

Trucks equipped with diesel motors in England has not kept pace with the passenger vehicles due to the fact that in order to avoid both taxation and speed limit restriction there, the unladen weight of trucks must not exceed 2½ tons, it was reported. In as much as the weight of the diesel motor is much greater than that of the gasoline motor, truck operators do not wish to sacrifice carrying capacity with the added weight of the diesel motor, according to the report.

Condensing Still Vapors With Stabilizer Tower Fractions

By HENRY COONEY

The problem of utilizing the energy stored in vapors rejected by the stabilizing column early attracted the attention of the producers of natural gasoline. These vapors are very desirable as a refrigerant, and as this industry is ever on the alert for any practicable means of producing lower temperatures for the oil, the gas or condensing operations, many solutions of the problem were forthcoming.

The purpose of this article is not, however, to comment on the excellent work already done in this field, but to suggest what is believed to be at least a different method of applying this cooling medium to certain condensing operations. The accompanying flow sheet was designed to illustrate this method. An explanation of this flow sheet and a brief description of the equipment used follows:

Vapors from the still after passing through a "knockout" and condenser go to header (C) where they are blended with the condensate from the low stabilizer. This blend then passes to the chiller. The liquid which collects in compartment (A) flows by gravity to the run tanks from which it is pumped as a feed to the main stabilizing unit. The uncondensed portion rises through the chiller passing first through, then around, then through the tubes on through the stripping plates and out to the compressors. The "butane" from the main stabilizer after passing through a condenser enters the chiller at the point shown or nearer the base of this tower as in section (B), depending on operating conditions. Its course of flow is on the opposite side of the chiller tubes from that of the still vapors. The liquid which collects in section (B) is pumped through the condenser of the low stabilizer to the fractionating column of the high stabilizer to serve as a feed or a reflux. The vapors from this side of the chiller may be expanded through the condenser of the high stabilizer to fuel or chemical plant.

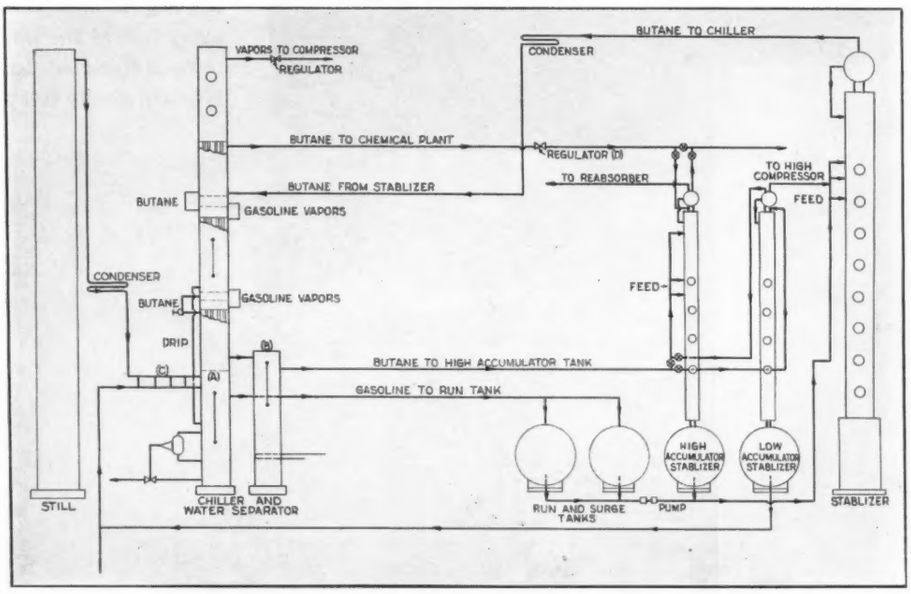
The condensate from the low stabilizer, as stated above, is bled to the outlet of the still condenser. Since this condensate fraction is liquified from the whole of the still vapors, returning it to the same stream not only enriches this stream but has a marked cooling effect on its temperature. (See Patent No. 1543750.) The vapors from this tank go to the high compressor.

The condensate from the high stabilizer is conveyed by its own pressure to the main stabilizer to serve as a feed or a reflux. The vapors from this tank go to fuel or service lines. In case these vapors are sent to low pressure lines they may be expanded through the condenser of this stabilizer with or in lieu of the vapors from the chiller.

Having briefly described this layout we now desire to call particular attention to certain items of the equipment—the chiller and the auxiliary stabilizers. These units were designed to assist in preparing a suitable refrigerant from the vapors of the main stabilizer, and to provide a means of applying this cooling medium to the still vapors. We have assumed that a mixture of propane and butanes would be satisfactory for the purpose in view, and will first consider the manner in which this fraction is secured.

Since the methane and ethane are removed from the feed and reflux of the main stabilizing unit by the auxiliary stabilizers, the vapors which pass to the chiller from the main unit will be chiefly composed of propane and butanes. The "butane" pumped from compartment (B) after serving its purpose as a feed and reflux for the stabilizers, also returns to the chiller. This fraction then will accumulate in the chiller. The behavior of this fraction in the chiller is controlled by the temperature of the still vapors, the heat applied by the coil, if used, and the pressure maintained by the regulator (D). The purpose of this regulator is to maintain what may be termed a reflux balance in the system by governing the amount of "butane" which leaves the vapor circuit as it is weathered out by the exchange of heat in the chiller.

The operation of the chiller may be briefly outlined as follows: The division of the chiller, styled the gasoline side on the sketch, carries only the appliances ordinarily found on the outlet from the still condenser, and will require only routine inspection. The operation of the "butane" side will consist in recycling the liquid from section (B), and in keeping the regulator (D) properly set. A small unit will answer for the recycling operation. This unit would, of course, replace the reflux pump, (if used). The proper setting of the regulator may be determined by trial. It should be set at a pressure which will insure the liquid state in compartment (B), at least. This pressure would range from 30 pounds, gauge, for butane to 110 pounds for propane at a temperature of 60° F. So it may be seen that a high pressure will not be required, and it will be found that a given setting will answer for a considerable change in the composition of the refrigerant. However, changes in the operating conditions which are to continue several hours may necessitate a resetting of the regulator, as when more or less oil is pumped per 1,000 cubic feet for the same gas, or when a change is made from a high to a low or from a low to a high vapor-pressure product.



Flow sheet illustrating the vapor circuit of a natural gasoline plant

Where a temperature around freezing point is carried on the chiller, efficient mist extractors should be installed at the header (C) and on the downcomers on the gasoline side, unless the distillation is dry or a dehydrating system is used.

The second item to which we wish to call attention is the auxiliary stabilizers. The function of these units was outlined above under the description of the chiller. Their operation will be practically the same as that of the ordinary accumulator tank. The pressure carried on these stabilizers will be regulated by the compressor ratio or by regulators. The discharge from the compressors supplies the feed to these units with the exception of the "butane" which is pumped from the chiller to the high side. A higher temperature may be carried on the discharge lines from the compressors, particularly the high side. In many plants the vapor cooling arrangement shown will make it practical to do all the cooling required overhead, eliminating the ground cooling coils or condensers. Water may be used in connection with these vapors, or water alone could be used to an advantage in the condensers of these stabilizers.

The use of the high auxiliary stabilizer provides

(Continued on Page 57)

LOUISIANA'S DEEPEST ACTIVE WELL WAS DRILLED, *of course* with an

IDEAL-AJAX 14 x 14 TWIN CYLINDER DRILLING ENGINE

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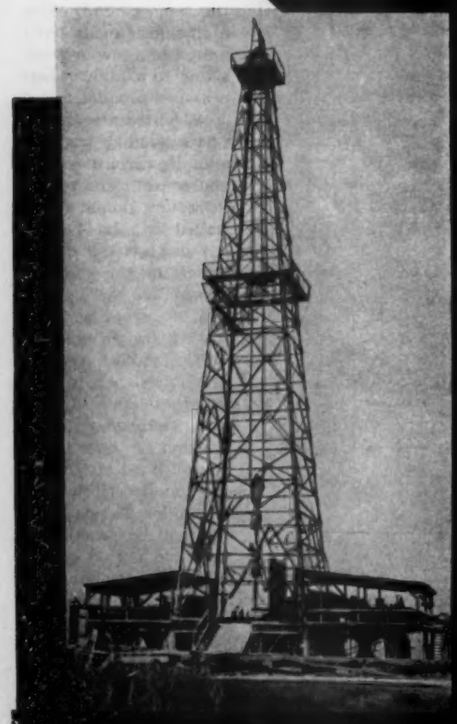

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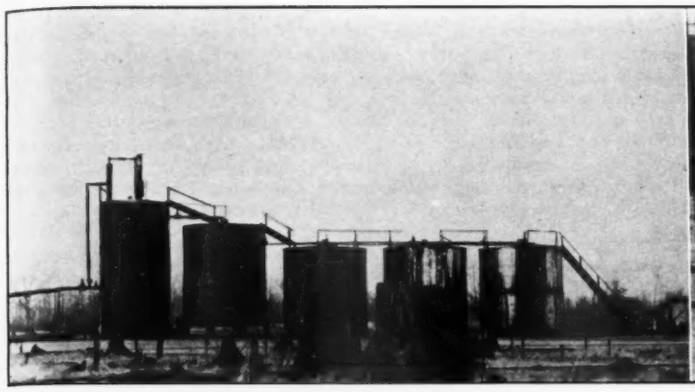
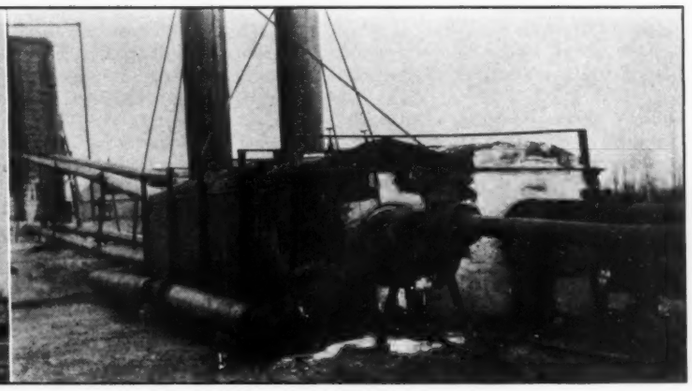


Treating and storage tanks on Pure Oil Co. lease in Michigan



Duplex heater handling oil and water between the well and settling tanks

Michigan Limestone Formations Suited for Salt Water Disposal

By L. G. E. BIGNELL

As the largest oil fields of Michigan produce from either limestone or Dolomite it is to be expected the wells would make a considerable volume of salt water. Practically all wells do make some water. In the fall of 1935 a voluntary organization of a group of operators in the Crystal field was formed to study brine disposal problems. It took some time to ascertain facts upon which to base definite proposals and it was not until March of this year that a final report of the committee was made. In the meantime several formations were tested to determine their capacity to take waste water. Michigan laws require each operator submit a plan for the under-ground disposal of salt water made by his wells to the Stream Control Commission or to the Director of Conservation.

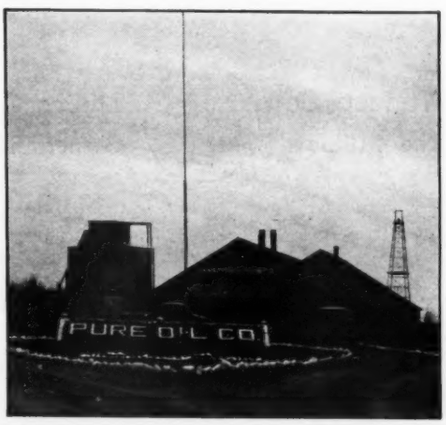
There are three producing limestone and Dolomite formations in Michigan, Traverse, Dundee and Monroe and four sand formations, the Berea, Parma, Stray and Marshall. It has been found that some water can be disposed of in the sand at the base of the glacial drift so there are really five sands and three limestone formations capable of taking brine to some extent.

Crystal Field Tests

The result of tests conducted by operators in the Crystal field indicate objections on the part of many land owners to permitting the use of wells on their properties for salt water disposal, because they feared if the formations were used for such purpose damage would accrue to the possible future oil production. To try to get around these objections the committee obtained permission from the conservation department to test the sand at the base of the glacial drift as a means of disposing of brine. One hole was drilled to a depth of 276 feet on the Strait farm in Crystal field on a property under lease to the Gordon Oil Co. and it was found possible to inject 104 bbls. of water per hour under a pump pressure of 40 pounds per square inch into this formation. Without the pump the well took about 35 bbls. of water per hour under gravity flow. This well was sold to the Gordon Oil Co. after the tests were completed and has since been used for brine disposal.

The next deeper formation is the Parma sand usually found a short distance below the base of the drift and separated from it by a shale body. It is usual practice to set a string of 10-inch diameter surface casing through the glacial drift and use a shoe for sealing the bottom of the pipe. The hole is then continued and drilled about 9¼-inch diameter through the Marshall formation. A string of 8¼-inch casing is run and usually cemented through the Marshall formation as this sand has been productive of water used for chemical extraction purposes for many years before the oil fields were opened in Michigan. In some instances 8¼-inch casing is pulled after the hole is completed and the flow string of 6⅝-inch casing run to the producing formation. If the 8¼-inch casing is pulled it is usual practice to cement off the Marshall sand anyway.

As the annular space between the 10-inch surface string and the 8¼-inch string affords a means of introducing water into the Parma sand the Pure Oil Co. tried this method of brine disposal on their Stedman and Margus "B" leases in the Crystal field. It was found pressure had to be applied to inject the water into the sand and also it was only safe to try this means of disposal after the water had been filtered. This made the operation costly and it has not been followed as it is simpler to get rid of the brine by disposal in the Dundee or Monroe formations.



Pure Oil Co. central power No. 6 in the Porter field, Michigan, pumping 42 wells

Marshall Sand Not Suited

The next lower formation tried for water disposal was the Marshall sand, but only one attempt was made to use that formation for this purpose. It was unsuccessful and the well abandoned. The Marshall sand is tight and does not receive water readily and it would be necessary to treat all water before attempting to dispose of it in the Marshall formation so it was the committee's recommendation that attempts to use that formation for this purpose be abandoned.

The Traverse limestone of Devonian age is a producing formation in the Salem field in Allegan County and has produced gas and oil in Muskegon field. This formation has not been used for water disposal but it is thought it is suitable for this purpose in areas where fluid enters the hole freely from that formation.

The Dundee limestone, also of Devonian age, is the most important oil producing horizon in Michigan. However, there are numerous wells drilled to that formation in the Crystal field which were not productive of oil. One such well is known as Voorhees No. 1 Duffield and was taken over by the brine committee as a possible well for cooperative brine disposal. This well was completed at a total depth of 3,247 feet with 9 feet of porous zone. It was initially tested without cleaning out or acidizing and took about 60 bbls. of water per hour with a 500-pound pump pressure. It was then acidized with 4,000 gallons of acid, and then took 300 bbls. per hour under vacuum. The well had a

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greater intake capacity but the available pumps could not deliver more water. The Duffield heirs refused to lease the well site for brine disposal and the idea of using this well for disposal purposes was abandoned.

Subsequently several operators in Crystal and Vernon fields successfully disposed of brine by returning it to the formations from which it had been produced and no undesirable effects have been reported from neighboring wells.

Below the Dundee formation there is another limestone known as the Monroe. An attempt was made to inject brine into the Monroe formation in Martin No. 1 Strait well. The well was deepened to 3,389 feet, or 182 feet below the top of the Dundee, and a packer set on a string of tubing below the Crystal pay zone. Brine was pumped into this well through the tubing but the packer failed and consequently the amount of brine pumped into the Monroe formation was not definitely known. Since further experiments would have involved procedure which might have junked the hole and the owner of the land would not give his permission to use the well for salt water disposal it was decided to abandon the test.

Another well known as McClanahan No. 1 Barger was selected and drilled below the Crystal pay and the casing cemented and the hole deepened to 3,318 feet or 121 feet below the top of the Dundee. The hole filled with water and an attempt to pump brine down this well was unsuccessful even though pump pressures up to 900 pounds per square inch were developed. As the rig had been removed before the disposal test was started it was decided to abandon this test also.

Monroe Limestone

However, the idea of using the Monroe limestone for a disposal reservoir persisted and even though it became apparent that serious difficulties lay in the way of forming a collective brine disposal system for the Crystal field composed of any large group of operators, the Gulf Refining Co., deepened its No. 1 Rule to a total depth of 3,368 feet, or 167 feet below the top of the Dundee. It was found possible to dispose of at least 1,500 bbls. of brine per day in this well under a vacuum and without acidizing the formation. This well has operated since July, 1936, as a disposal well and taken from 1,000 to 1,500 bbls. of water per day without interruption, or reconditioning.

Cryden Petroleum Corp. after unsuccessfully attempting to work out a cooperative plan for brine disposal deepened its No. 2 Husted to a total depth of 3,496 feet or 322 feet below the top of the Dunee and since November, 1936, has successfully disposed of about 250 bbls. of brine daily under vacuum.

A review of the work accomplished by the Crystal Brine Disposal Committee and various operators indicates the possibilities of using limestone and Dolomite formations for this waste-water disposal. Some work has been done in fields outside of Michigan using lime formations for water disposal purposes and it has been found possible to materially increase the capacity of the formation to take water by acidizing the lime. The lime formations have tight and porous stratas and it is usually possible to open a porous section which will take water. It is also possible to improve natural conditions by acidizing such a strata so that a disposal well of this type will take an almost unlimited volume of water without added pump pressure.

This method of disposing of water has other advantages. As the pore space is relatively large and water enters freely it is not necessary to treat the water at the surface to remove chemical impurities. For sand wells it is quite essential that all water be treated and handled in such a manner as to keep it from the air at all times. If the brine is aeriated sulfides will tend to oxidize and then precipitate in the fine pores in the sand formations when they mix with the formation waters. Clogged sand formations are hard to clean and recondition. In the lime wells the pores are large enough to take the brine without appreciable clogging so preliminary treatment before disposal is not necessary.

In one instance it is reported salt encrusted the face of a lime well used for disposal purposes and clogged the pores. Acid was used to clean this hole and after treatment the well would take more water than it did originally.

Test Electrically Treated Oil for Sludging Properties

In discussing the results obtained during more than one year's practical testing of 10 Hornet airplane engines by the Belgian Airways Co., Michel Roegiers of the Elektrion Oil Works, Ghent, Belgium, pointed out several interesting features regarding the properties of electrically treated lubricating oils before the Institution of Mechanical Engineers at London, England, at a recent meeting. The electrically treated oils were compared with a modern refined oil under mild operating conditions or at 55 to 60 per cent of the rated power at cruising speed.

Oil drainings were made every 75 flying hours, and average samples were drawn from each oil draining. These samples were examined for deposit or sludge content, volumetrically, by the centrifuge method of the A.S.T.M. D.91-35. In all, some 60 drainings were tested and the sludge results provided the following indications:

"1. In the case of new engines and for both oils, the first two or three drainings contained between 0.2-0.4 per cent of sludge. During these periods the low oil consumption indicated the the amount of 'blow-by' to be very small.

"2. In regard to longer periods of engine operation, with the mineral oil, the sludge content increased rather regularly up to about 2 per cent. There were occasional peak values of 2.5 per cent and even 3.2 per cent. These peak values appear to have been the results of occasional ring sticking.

"With the electrically treated oil, the amount of sludge kept fairly uniformly at about 0.4 per cent even with engines which had been operating for over 800 flying hours without overhaul. Occasional peak values never exceeded 0.8 per cent. On stripping, the engines—some of them having totaled over 800 flying hours with either oil—showed always much more sludge deposit in the hollow crankpin for the mineral oil than for the electrically treated oil.

"General cleanliness and wear on rubbing surfaces were comparable for both oils, except for those parts where boundary lubrication plays a prominent part (for instance gudgeon pins) which definitely favored the electrically treated oil.

"The fact that the mineral oils of the quality described, failed to complete the test on the very high output engines now being built in the United States, must not be attributed to lack of chemical stability, but it strengthens the belief that those oils are deficient in what we here usually call oiliness."

Condensing Still Vapors

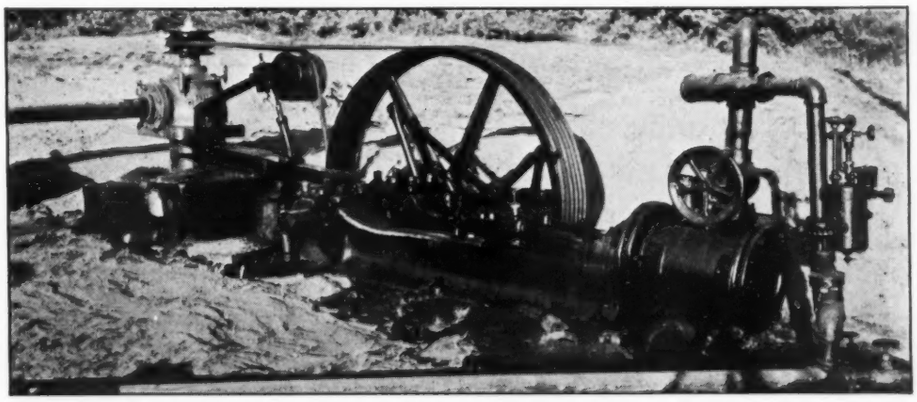
(Continued from Page 53)

a means of fractionating all vapors before they leave the circuit, a desirable feature in many plants. This feature also reduces the load on the main stabilizing unit and provides it with a better feed and reflux. In plants where a high or a moderately high single compression of the still vapors will accomplish all that is desired in the way of condensation and compression, the high compressor and its equipment may be dispensed with. In this event the "low" auxiliary stabilizer will fractionate all the still vapors with a heavy reflux, the resulting condensate going to the chiller, thence to the surge tanks. This arrangement may make subsequent treatment of the vapors rejected by the low stabilizer in auxiliary oil absorbers unnecessary.

The operating and maintenance expense of the chiller and the auxiliary stabilizers are low. The saving effected in compressor load alone would more than cover this outlay. The saving in water expenses, and the increase in the yield of gasoline that would result from the use of these units would soon pay out their cost installation.

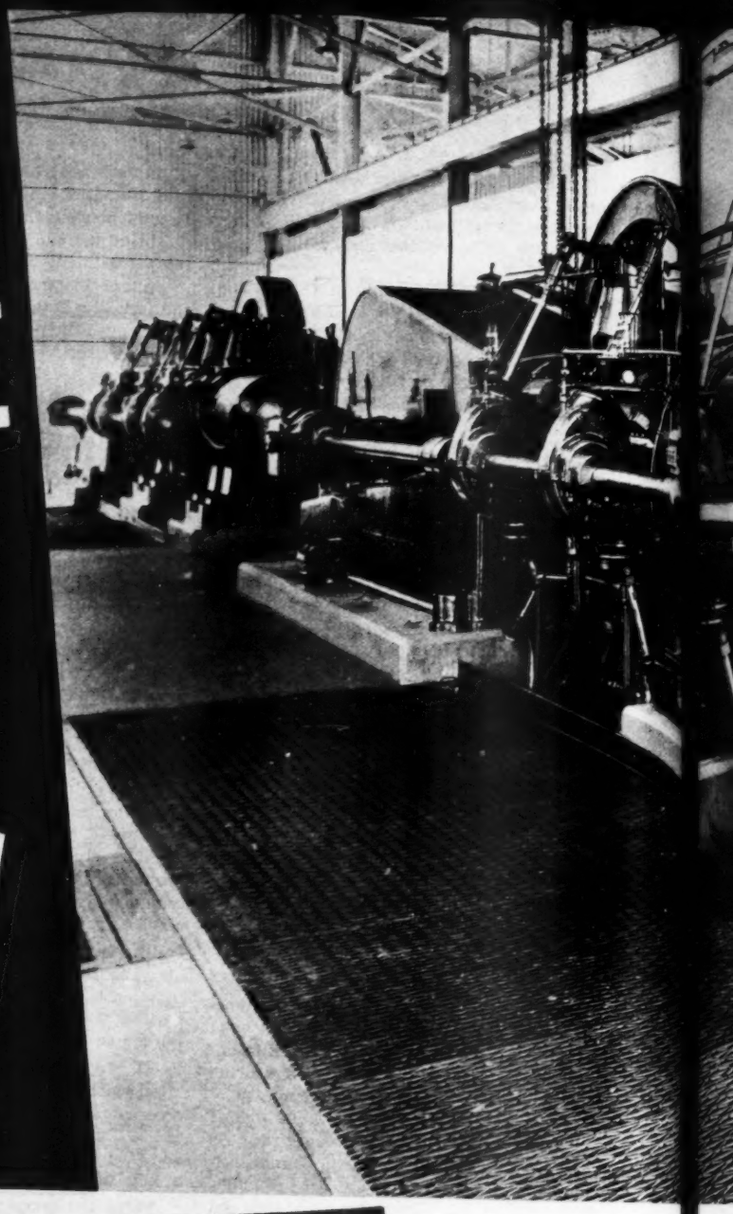
The various types of equipment employed and the diversity of operating methods and conditions would seem to make each plant a problem of its own, so in adapting the suggestions here offered to other installations advantageous changes may be made in the arrangement and construction of the apparatus shown and described.

OLD "MAIL POUCH" TYPE PUMP USED ON WATER WELL



Ohio Oil Co. No. 3-E KCL, in Kern County, California, which recently discovered a new deep pool, was drilled with the most modern equipment on the market, yet the steam engine shown in the accompanying photograph was found in active service at the location. It is the "mail pouch," power unit of the standard cable-tool rig, but here it was used merely to pump a shallow water well by means of a V-belt drive from its flywheel. It formed an interesting contrast with the towering vertical steam drilling engines of the present day. The water well was located near the boiler plant so that only a few joints of pipe were required to supply steam to the engine.

Here's REAL INSURANCE against COSTLY SHUT-DOWNS!



A single power-failure here, in connection with the polymerization process, would mean the loss of thousands of dollars.

That's why you see Cooper-Bessemer gas engines entrusted with this important job.

Incidentally, this is said to be the *largest* gas-engine-driven charging-pump installation in the world.

Whether for refinery pumping, or for driving main-line gas compressors, it is just as true today as it was twenty years ago — the slow-speed, heavy-duty design of Cooper-Bessemer horizontal gas engines is the best-known way to combine the utmost *reliability* with the greatest economy.

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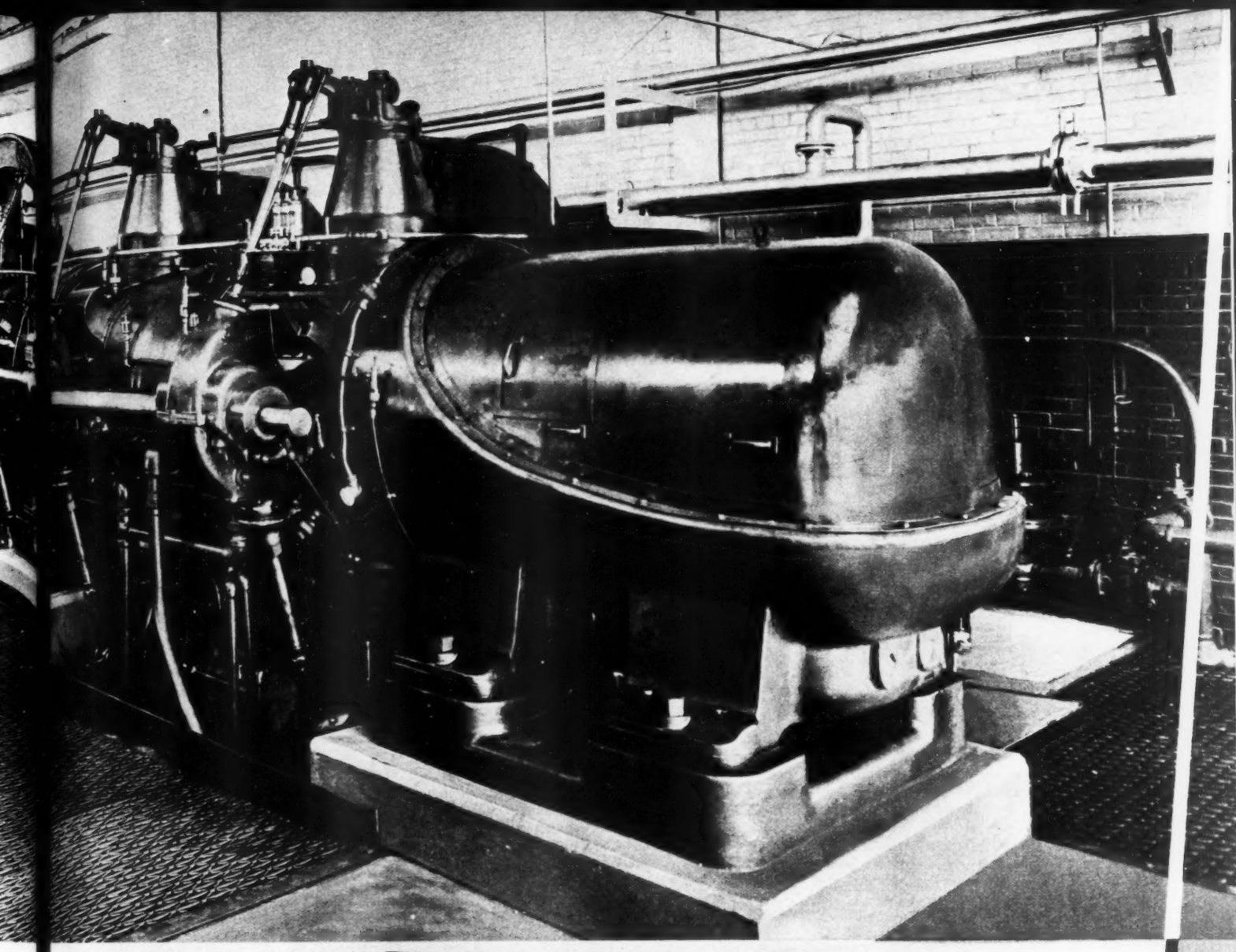
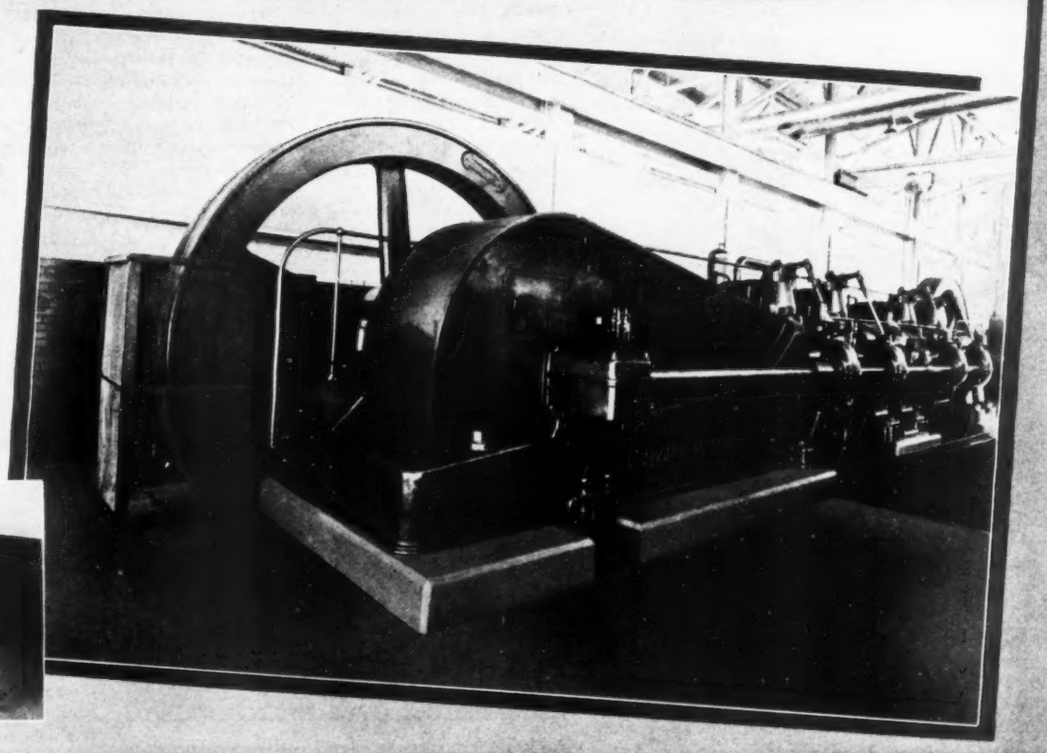
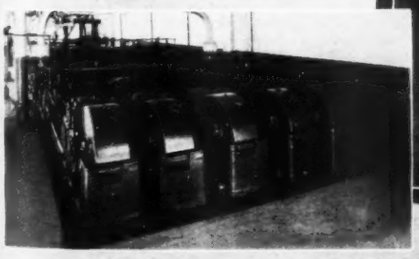


BAYTOWN, TEX.—Two Type-26 (26" x 36") single-tandem four-cycle Cooper-Bessemer gas-engines, each rated 720 to 825 H. P. at 120 to 138 r.p.m., direct-driving charging pumps through flexible couplings, for Humble Oil & Refining Company. Another BIG pumping job—handled nicely by Cooper-Bessemers!





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Compressed Air Used to Clean Wells on Properties Being Repressured

By J. P. O'DONNELL

Cleaning out oil wells with compressed air is being revived in the Middle District Pennsylvania fields where it is found to be decidedly economical.

This method is particularly adaptable on properties in this area where secondary recovery operations are underway along a broad front. In the event that gas is being used as the repressuring medium the compressors can be converted readily to air.

Among the few operators using compressed air for cleaning out in this district is the South Penn Oil Co. The company uses a portable compressor for much of this work and also converts repressuring compressors wherever and whenever available. It is desirable that the compressor have a minimum capacity of 500 pounds. It should be pointed out that volume is as important as pressure, particularly for deeper wells, and it is advisable to have the reservoir as near to the well head as possible so that the energy of compression will not be dissipated in traveling through lines.

Principal equipment consists of the compressor, a reservoir tank capable of withstanding pressures up to 500 pounds, lubricated, high-pressure gate valves, several lengths of 2-inch pipe with three-way connections and a high pressure hose to connect the pipe with the tubing.

Several types of reservoirs are in use, some are high-pressure tanks while others are made up of 600 to 1,000 feet of 6¼- or 8¼-inch pipe. Reservoirs of the pipe-type are used by the South Penn Oil Co. Another operator uses a 15-bbl. capacity high pressure drum for cleaning out 1,000-foot wells.

It is advantageous to so locate the reservoir that a number of wells within the restricted radius of the reservoir-tubing connections can be cleaned out without moving all equipment. This is oftentimes difficult on account of the rugged topography of these fields which accounts for the varying lengths of reservoir pipe used.

Method of Operation

A high pressure gauge is installed at one end of the reservoir and lubricated, high-pressure gates at either end. These gates control the sudden flow, or "slug," of compressed air into the well and prevent it from backing up into the compressor. Three lengths of 2-inch pipe, joined with three-way connections, conduct the air to the hose which in turn is connected to the top of the tubing. After the rods are pulled, the tubing which is in the hole, can be used with a shoe attached for breaking up large chunks. If the tubing is coated with paraffin the air will blow it down into the well and up through the annular space.

In some instances the 2-inch pipe is connected directly to the top of the tubing and, in this case, the three-way connections permit the pipe to slide backward from the well as the tubing is lowered into the hole. Several additional pieces of pipe can be laid on the ground to form a skid for the 2-inch pipe as it slides backward.

Water Slug

A pole or pulling machine is set up at the well and the tubing is raised to the top of the sand. After a pressure of 450 to 500 pounds (a minimum of 400 pounds is now being used) has been built up in the reservoir, 2 or 3 bbls. of water are emptied down the tubing, the amount of water varying with the pressure and volume of air. The hose is connected and the pressure released. Cavings, extraneous material are blown out through the annular space between the tubing and the wall of the well. The tubing is lowered as the air discharges so that the most effective force of the air is kept immediately above the cavings.

While this method is most effective in cleaning out the fine cavings which are the chief causes of plugging, it has been known to lift large objects, on one occasion blowing out a hatchet. By raising and lowering the tubing, the operator can cause a scouring action which is effective in removing paraffin from the well face. The force of the air is sufficient to blow the water and cavings over the top of the pole.

Cycle of Operations

While the time required for a single "slug" naturally varies with the size of the reservoir, it ordinarily takes about an hour to fill the pressure tank and usually less than five minutes for it to discharge into the well. As much as 5 to 10 feet of hole is usually cleaned out by a single "slug" so that the actual cleaning out process for an individual well requires only a few hours. With the time required to set up the equipment divided among the numbers of wells serviced from one location, the average cleaning-out time is only a small fraction of that required to clean out by moving in, rigging up and redrilling.

Portable compressor with reservoir and connections used in cleaning out with compressed air on Pennsylvania property

Well being cleaned out with compressed air. The hose used to connect the reservoir with top of tubing is shown to the left

Air Supply

Wells have been cleaned out by this method one day and retubed the following day. It is usually necessary however to clean out slight additional cavings the second day. While the compressed air method has been used exclusively for cleaning out natural cavings, one large operator plans to test its effectiveness on cleaning out after a shot.

Besides providing the compressor, repressuring operations lend themselves to this method in another manner. When the wells to be cleaned out are distant from the compressor plant, the air can be carried through the field lines supplying intake wells. Wells located a half mile distant from the plant have been cleaned out by air carried through field lines to a reservoir near the wells. It is essential in this case also that the lines be tested previously for high pressures.

Compressed gas can also be used in cleaning out wells but the scarcity of this product and the necessity of conserving it for power and pressure purposes prohibits its use in this area.

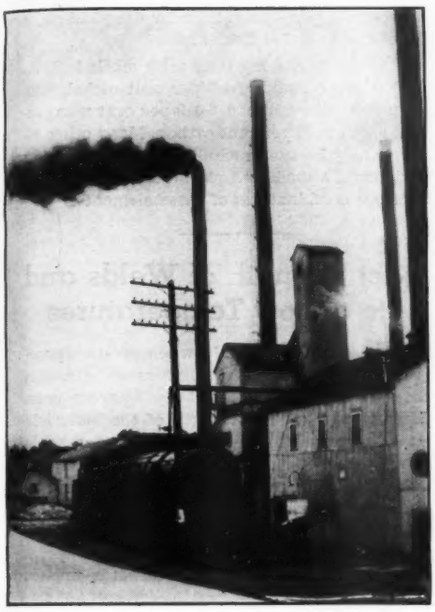
Heat Exchanger Standards

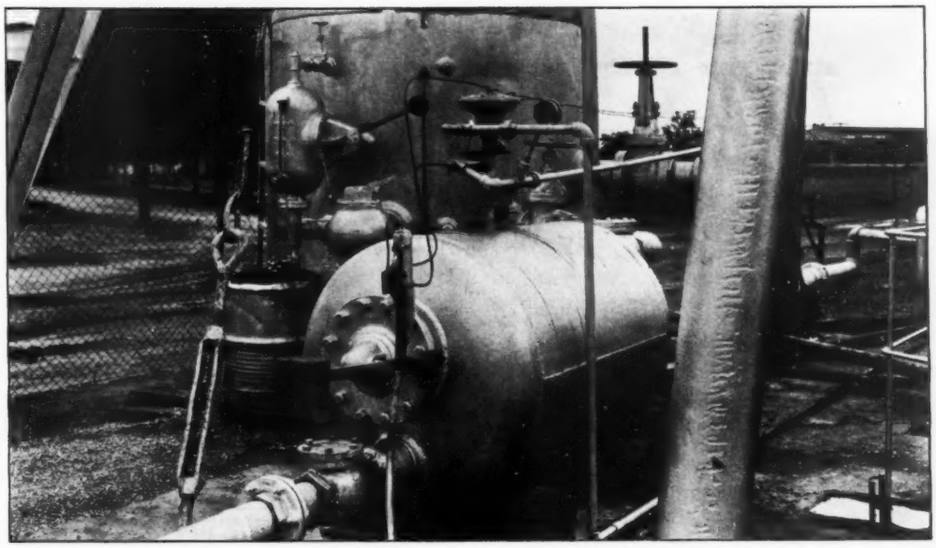
Heat Exchange Institute has announced the publication of "Standards of the Tubular Exchanger Section" covering mechanical, construction and thermal standards for shell and bare tube heat exchangers. The standards contain data on exchanger shells, tube sheets, baffles, support plates, tubes, material specifications, fouling factors and thermal design data. Copies may be secured from 90 West Street, New York.

OPERATING IDEAS

Locomotive Furnishes Steam

A railroad locomotive was rented to furnish steam for this plant when it was found necessary to make certain changes which included the replacement of a 125-hp. boiler with a new one. A tall stack was installed to get the necessary draft and an insulated steam line was used to connect the locomotive with the plant. Steam was furnished at 125 pounds pressure. The railroad rented the locomotive for $1 per day and took care of its being washed down once a month. The wages of the fireman, who was temporarily assigned to the job by the railroad, were paid by the owners of the plant.



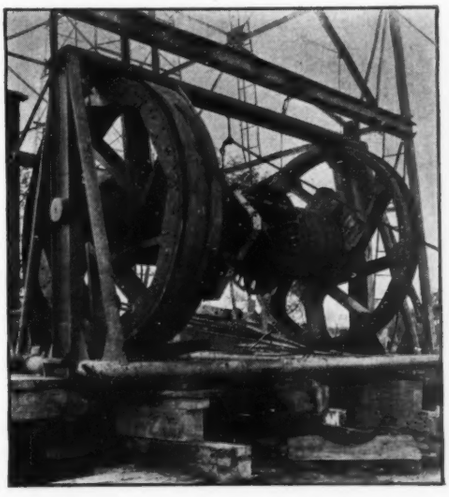


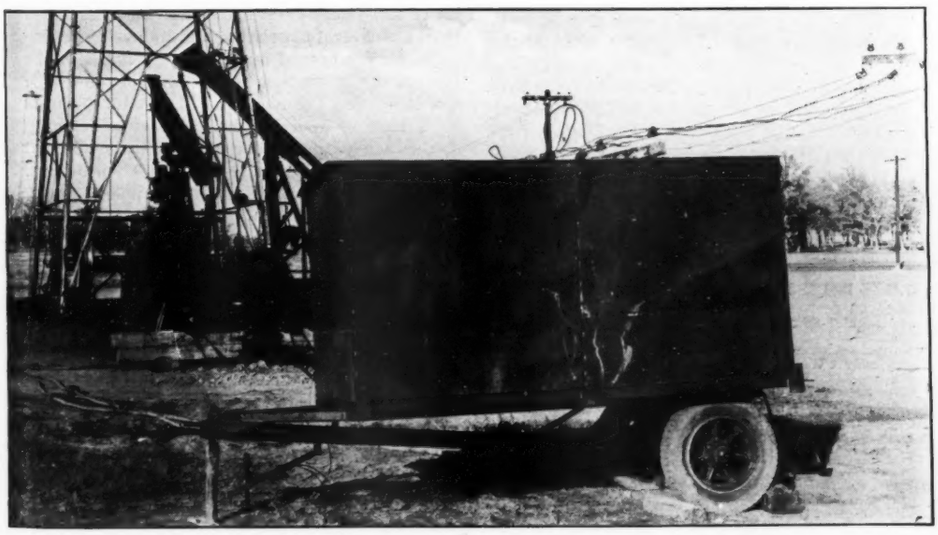
Auxiliary Tank Reduces Back Pressure on Well

Several operators in the Oklahoma City field have experienced considerable trouble from back pressure on wells being produced by gas-lift or natural flow where one separator was being used. By installing a small pressure vessel between the separator and the stock tank and disconnecting the pressure equipment on the separator to allow it to dump into the pressure vessel, the oil and gas was properly handled and the back pressure on the well eliminated. Without this vessel, it was necessary to carry at least 12 pounds back pressure.

Portable Bullwheel

An operator in the Ada, Oklahoma field, has mounted bullwheels on skids, made from pipe with the framing from channel iron, in order to increase their portability. The wheels can be moved in, anchored to the sill of the derrick and they are then ready to drill, clean out or swab. The frame is welded throughout, with all corners braced by having pieces of sheet steel welded to both members. When work is completed at one well, the unit is loaded on a truck and moved to the next job.





Portable Transformer on Drilling Rig

To increase the portability of a cable tool drilling rig used in cleaning out and repairing wells, a large operator in the Fitts pool near Ada, Okla., has mounted a transformer in a two-wheel trailer house. The transformer is completely enclosed in a weather-proof housing, only the connections for hooking to the nearest power line and to drilling rig motor being exposed.

Progress in METALS

By W. L. NELSON

Metallurgical Terms—Heat Treatment

Unfortunately the term *"heat treated"* is used in a most general way by manufacturers of metal products. For this reason the term means only that something has been done to the metal and the real operation that is inferred can only be determined by a knowledge of the particular heat treating operations that are commonly used for that type of metal or alloy.

Thus the term *heat treated* when applied to steel may mean that the steel has been quenched from an elevated temperature and tempered or reheated to some lower temperature. Although this usage is the most common you will find some writers and advertisers who refer to almost any operation such as annealing, normalizing, spheroidizing etc., as heat treatment. When other materials, such as brasses, cast or malleable iron, or the aluminum alloys are considered, the term "heat treatment" is used even more generally.

The upshot of this confusion is that the reader must not attach too much significance to the meaning of the word "heat treatment" and to find out exactly what is meant before formulating any opinion of the usefulness imparted by the heat treating operation.

Overheating Pipestill Tubes

Abstract and Discussion—"The Fracture of Carbon Steels at Elevated Temperatures" by White, Clark and Wilson, before the 18th Annual Convention of the American Society for Metals, Cleveland, October 19, 1936.

Creep strengths have been used for several years as the basis for designing pipestill and boiler tubes but under certain conditions this type of test or data does not account for the actual behavior of the tube. One irregularity that appears frequently is the overheating of tubes because of the coke or scale that is deposited within them during service. The coke serves as an insulating material and causes the temperature in the tube wall to rise dangerously. At high temperatures the steel is weak and ruptures after a relatively short time.

The above authors have studied the length of time required to cause rupture at several temperatures and for two types of carbon steels. Data on one of the two steels (Open Hearth S. A. E. 1015) are shown in Figure 1 which relates stress, time and temperature using logarithmic coordinates. The results for the other steel (Electric Furnace S. A. E. 1015) are similar to those shown in Figure 1 and the fact that the slopes of the lines for both steels are substantially the same is worthy of note. The data are not complete enough to justify a direct correlation with tensile strength tests but enough relation is indicated in Figure 1 to permit of reliable estimates concerning the rupture time for common tube materials. The deviation from a straight line is thought to be caused by oxidation.

The usefulness of rupture-time data is obvious. As an example, if a tube is designed to operate at a temperature of 1000° F. it can be designed to last for several years by creep strength data. However, should the tube attain a temperature of 1400° F. it would last for only 2 or 3 hours at a stress of 4,000 pounds per square inch according to Figure 1. The fact that failure occurs in so short a time would indicate that most of the failures of tubes in pipestill operation by bulging are caused by short periods of laxity in operation during which the tube temperature becomes high.

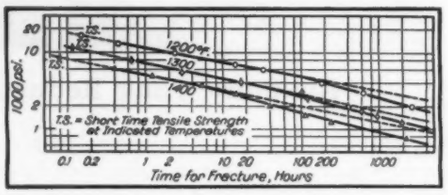


Fig. 1—Stress-time for rupture curves for steel S.A.E. 1015 (open hearth) at 1,200°, 1,300° and 1,400° F.

Long Drill Collars

In the rotary type of drilling equipment the drill collar is exposed to extreme stresses and rough service. The primary function of the drill collar is to put the weight of the drill-string directly behind the drill so that the load does not tend to bend the drill or collar or cause the drill to wedge into the newly drilled hole. In order to accomplish this purpose the drill collar is of relatively heavy construction and longer than the usual coupling so that it has sufficient rigidity and stiffness to keep from bending and thus keep the drill in alignment with the hole that has already been drilled.

In an effort to obtain straighter holes and faster drilling speeds, the industry has gone to longer and larger drill collars until some manufacturers have gone to such lengths as 30 feet. The difficulties in producing a steel of uniform toughness, strength, hardness and abrasive resistance, for such great lengths is great, but manufacturers have successfully conquered these difficulties by the use of alloy steels and special heat treating furnaces by which the entire 30 feet of coupling can be heat treated at the same time. The properties of the alloy steel in these drill collars may be as high as 100,000 pounds per square inch for the yield point and a hardness of 300 Brinell.

One of the commonly used alloy steels is S. A. E. 3140 which contains 1-1.5 per cent nickel, 0.45-0.75 per cent chromium, 0.6-0.9 per cent manganese and about 0.40 per cent carbon. Many other alloy steels may be used including those containing molybdenum, vanadium, chromium, manganese and various combinations of these elements.

Impact Strength of Welds and Plate at Low Temperatures

The rapid development of low-temperature processes in petroleum refining has focused attention upon the strength of metals at low temperatures, particularly the impact strength of the materials because the general tendency of metallic materials is to become brittle at subzero temperatures. Although welding has not as yet been widely used as a means of construction for such services, the accompanying data indicate that the impact strength of welds does not decrease greatly at low temperatures and in some cases exhibits even better impact properties at low temperatures. The results of the tests are not very consistent but they appear to justify the conclusion that welding does not reduce the low-temperature strength of equipment.

The tests were conducted by Otto H. Henry and reported as "Static and Impact Tensile Properties of Some Welds at Ordinary and Low Temperatures," on page 41 of the Welding Research Supplement of the Welding Journal, October, 1937, Regular tensile (static) test specimens were machined from the several plate materials and welded specimens were prepared by cutting a V-notch in the specimens and welding the two ends of the tensile test specimens together. The impact tensile tests were made by applying the load almost instantly rather than by the regular slow application of load as practiced in the regular (or static) tensile test. The test results are summarized in Tables 1 and 2. Ductility tests, as elongation and reduction of area, are also presented in the original paper.

TABLE 1—IMPACT AND STATIC TENSILE PROPERTIES OF CARBON STEEL WELDS AND PLATE METALS

Material	+68°F.	+32°F.	−4°F.	−40°F.	−76°F.	−112°F.
Plate metal 0.25 carbon steel						
Static—1,000 lb. per sq. in.	59	61				70
Impact—foot pounds	83	81	80	69	71	65
Electric Butt Welds						
Static—1,000 lb. per sq. in.	71	70	74	75	81	83
Impact—foot pounds		62	58	62	51	53
Atomic Hydrogen Welds						
Static—1,000 lb. per sq. in.	66	60	67	70	72	73
Impact—foot pounds	55	38	36	54	47	42
Naval Bronze Welds						
Static—1,000 lb. per sq. in.	45	43	44	47	45	43
Impact—foot pounds	27	22	21	23	21	21
High Strength Bronze Welds						
Static—1,000 lb. per sq. in.	58	63	52	63	63	68
Impact—foot pounds	44	42	40	38	36	33

TABLE 2—IMPACT AND STATIC TENSILE PROPERTIES OF STAINLESS WELDS AND PLATE METAL

Material	+68°F.	+32°F.	−4°F.	−40°F.	−76°F.	−112°F.
Plate metal—20-9 chrome nickel						
Static—1,000 lb. per sq. in.	97	109	120	133	144	152
Impact—foot pounds	166	199	196	192	190	192
Arc Welded Stainless						
Static—1,000 lb. per sq. in.	81	80	80	95	116	123
Impact—foot pounds		101	131	100	124	123
Gas Welded Stainless						
Static—1,000 lb. per sq. in.	48	60	59	59	66	63
Impact—foot pounds		123	115	122	31	140

Corrosion Testing of Metals and Alloys Used in Refineries

By D. R. CRAMPTON and N. W. MITCHELL
Metallurgists, Chase Brass & Copper Co.

The testing of one's product after manufacture to determine whether it fulfills all the requirements necessary for the service in which it will be used is at the present time indispensable. The refiner tests his gasoline production to determine its suitability and the metal manufacturer tests his product to determine its behavior under actual operating conditions. There is, however, a very great difference between the testing of gasoline and the testing of metals with regard to the expected behavior in service of these materials. Gasoline can be accurately tested, its physical properties determined, and from the results one can predict very exactly its behavior in an automobile under known conditions of operation. The prediction of the behavior of metals under corrosive service conditions, however, is very difficult and may not be *accurately* predicted from the results of any tests which may be applied to the metal. All the physical properties of the metal, of course, may be exactly determined, but the physical properties of a metal have absolutely no relation to the corrosion resistance of that metal.

Conditions under which metals and alloys are used vary greatly from one industry to another and from one refinery to another. Even in the same refinery it is often the case that alloys which serve successfully as condenser tubes in one unit may not be satisfactory for the tubes of other heat exchangers and condensers. It is a characteristic of corrosion that it is very eccentric. In most cases, also, the corrosion testing of metals and alloys must be done under laboratory conditions which may not closely approximate conditions which occur in actual service.

For many years metal manufacturers have endeavored to develop methods for corrosion testing to obtain results which would enable them to predict more accurately the behavior of their materials when placed in corrosive service. Methods have been developed for corrosion testing of both ferrous and nonferrous alloys. Most of the laboratory test methods are designed for testing metals against water solutions. Most corrosion tests also make use of loss in weight as a measure of corrosion resistance. Some time ago the authors came to the conclusion that for copper alloys tensile strength losses were much more satisfactory than weight loss measurements for estimating corrosion resistance. There are several reasons why this is felt to be the case.

Selective Solution Corrosion

Many alloys, particularly brasses, undergo the selective solution form of corrosion, in which the metal is much damaged and sometimes rendered worthless for service, but without appreciable loss in weight. Also the pitting form of corrosion may cause considerable damage or failure, but the loss in weight may be in no way commensurate with the damage caused by corrosion. The same is true of intercrystalline corrosion. On the other hand, considerable losses in weight may take place with general thinning, which is the least damaging form of corrosion.

Damage done to a specimen by selective solution, pitting, or intercrystalline corrosion results in large tensile strength losses. Corrosion by general thinning causes only a relatively small percentage loss in tensile strength. The tensile strength loss is, therefore, much more closely connected with the form of corrosion than is the weight loss.

May Remove Metal

In order to obtain weight-loss measurements, it is necessary to clean the specimen carefully after corrosion to remove corrosion products from the surface. In many cases it is not possible to remove all of the corrosion product without also removing much metal; in fact, in many cases, particularly when the weight loss due to corrosion is small, the error will be very large.

For tensile strength measurements it is not necessary to clean the specimen, and the measurements may, therefore, be made without the possibility of damage due to considerable handling during cleaning.

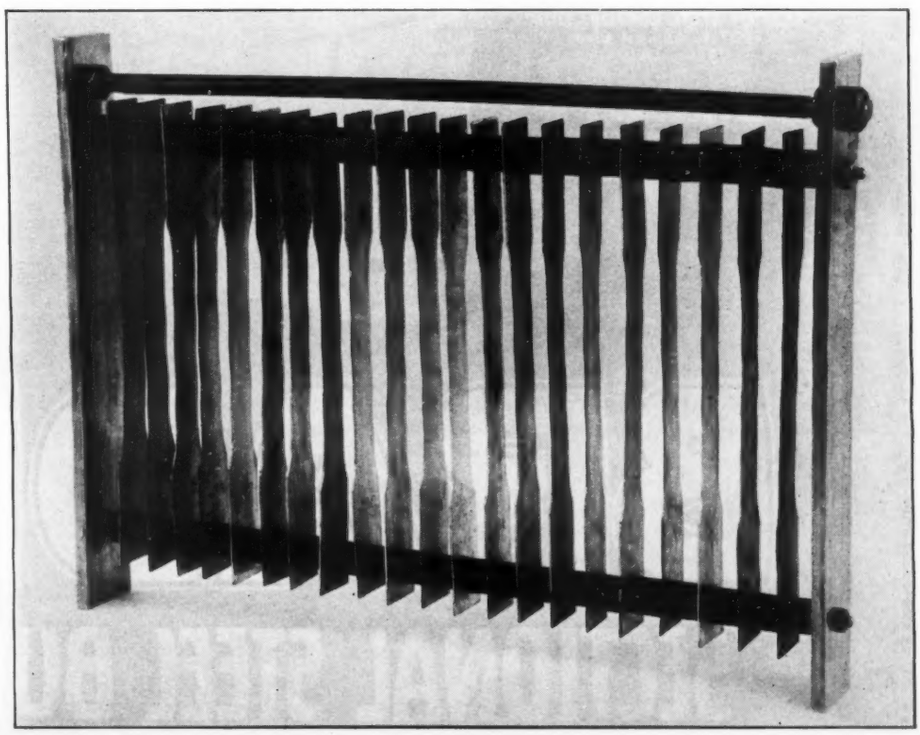
In some cases there is sufficient difference in density of several materials to offset the difference in the measured loss of weight.

In addition to this, the tension test automatically selects the area on the specimen where greatest damage by corrosion has taken place. This eliminates the necessity for personal selection of the deepest pit, for instance, in depth of pitting measurements.

Specimen Strips

The specimens used for laboratory corrosion testing by the authors are strip tension test specimens of 0.032-inch thickness, conforming to Figure 7 of the *American Society for Testing Materials' Standard Method of Tension Testing of Metallic Materials (E8-36)* as given in the *1936 book of A.S.T.M. Standards, Part 1, p. 838.* The specimens are 6 inches in total length and are drilled with a hole at each end to permit placing in the apparatus. The loss in tensile strength, as calculated on the basis of the cross-sectional area before corrosion, is taken as a measure of corrosion resistance. It should be kept in mind in this connection that the use of tensile strength measurements for obtaining values for the relative corrosion resistance of several alloys is entirely independent of the importance of the tensile strength of the alloys in service. In other words, the tensile strength loss is merely an indicator of the corrosion damage sustained by a metal and is independent of the actual tensile strength or other physical properties of the metal which may be desirable in service.

There has been a distinct need for standardized methods of corrosion testing which could be applied to the use of condenser and heat exchanger tubes and other metallic material in the oil industry. Corrosive conditions in the refinery are particularly severe in many cases and much of the



Rack of various type alloys used to determine amount of corrosion taking place in refinery equipment under actual operating conditions

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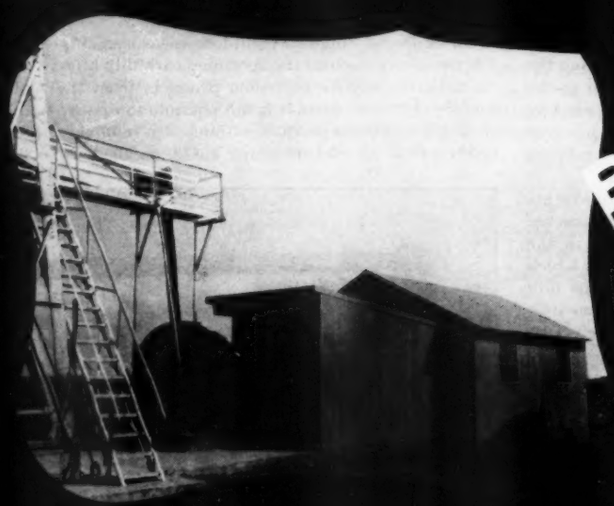

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time the corrosion is due to the action of sulfur compounds occurring in gasoline or oil vapors as well as by the water which is used for cooling. The authors have very successfully adapted their test methods for aqueous corrosion testing to the testing of metals and alloys under actual service conditions in the refinery. To this end, tension test pieces are grouped in the form of a rack or some other suitable form for placing in condensers or exchangers under actual service conditions. Such test racks contain check specimens of several different alloys which are measured before placing in the rack. The racks are placed in the water box of the condenser, or in the shell of the condenser or heat exchanger, in contact with corrosive gases, or actually in the feed lines leading to these units. Test racks of tension test pieces have also been used in units which were operating, for instance, as parts of solvent recovery systems and other special applications. The test pieces are left under these conditions for a period of time sufficient to cause visible corrosion of some of the alloys. It is desirable to leave the test rack in operation long enough so that tensile strength losses of the order of 25 per cent occur with the less resistant alloys. After a period of test the specimens are pulled in tension and the change in tensile strength due to corrosion is recorded. Very valuable information has been obtained in many cases indicating the suitability or unsuitability of certain alloys under given conditions. In many cases in which this type of test has been used it has been demonstrated that the results as given by the test are very closely similar to the relative behavior of the same alloys when used later in the form of heat exchanger or condenser tubes under similar service conditions.

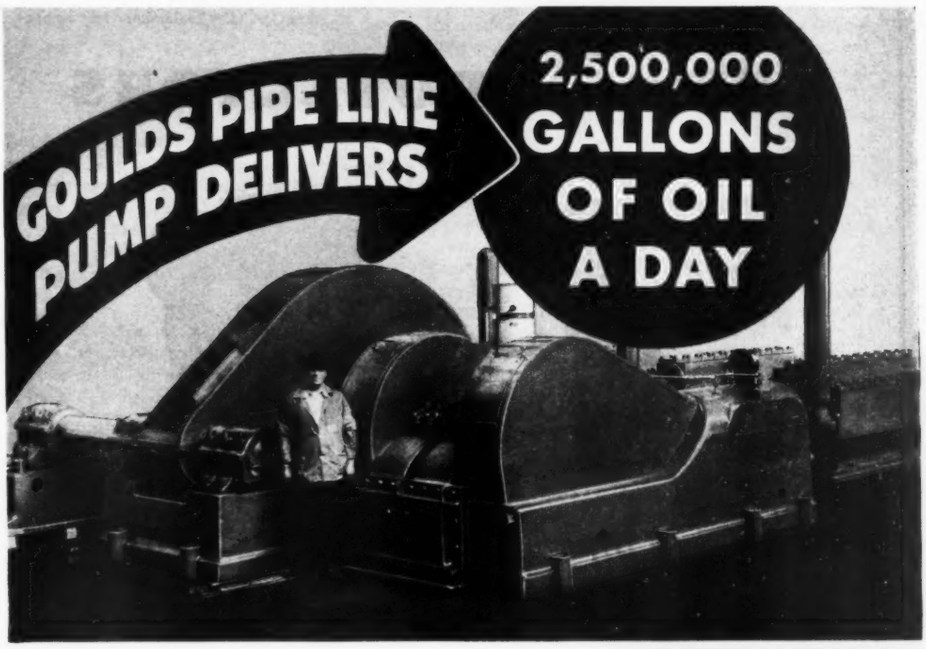
West Coast Power Plants Using Oil for Electro-Generation

During their short history, the oil and natural gas industries have constantly gained new markets, often displacing other fuels. But markets have been lost as well as gained. The early success of the oil industry was founded on kerosene, and when this derivative was replaced by electricity for domestic and industrial lighting, the industry was left in a less enviable position. While time has healed the wound left by the loss of a major market, it is gratifying to note that oil and natural gas are finding an ever-increasing outlet in the lighting and power industry of today. While petroleum products are unable to compete directly with electricity in this field, they can very successfully compete with water power and coal in the generation of electricity. This is shown by the fact that an increasing number of power plants use oil and natural gas for steam generation and develop electric power by means of turbo-generators. Some Pacific Coast power concerns develop the great bulk of their power in these steam plants. Natural gas is used for firing boilers except when cold weather causes a peak gas demand. At such times fuel oil is substituted for gas. This manner of operation enables steam power plants to compete with even the cheapest hydro-electric power, such as Boulder Dam power. Other power companies which operate extensive hydro-electric systems use steam plants to supplement the hydro-electric supply in times of dry weather or unusual demand. In this way Pacific Gas & Electric Co. operates 49 hydro plants and 10 steam plants. Now construction is about to begin on a $5,000,000 steam plant which will probably be operated on an all-year-around basis.

The new power plant will be erected at Tide Water Associated Oil Co.'s Avon refinery on San Francisco Bay. Under a cooperative agreement the power plant will use all of the refinery's treated sludge oil, and will supply electricity and steam for refinery operations. The principal boiler fuel of the power plant will be natural gas which Pacific Gas & Electric Co. will obtain from its transmission lines. Sludge oil will make up about 25 per cent of the total fuel. During times of high gas demand in the adjoining metropolitan areas, the power company will purchase fuel oil from the refinery to replace the natural gas as boiler fuel. The power plant will be completed sometime during 1939. After completion, the refinery will have a profitable outlet for sludge oils, it will be supplied with low-cost electricity, and operation of its boilers will be discontinued. The power company will market the surplus electricity to meet an expected future increase in demand. Because the refinery's location is near San Francisco and other bay cities, power transmission costs will be considerably lower than from hydro-electric plants in the mountains.

Much of the equipment required for the new plant is not now on the market. Requirements have been determined, and it remains to be seen what equipment will be offered to meet specifications. Plans call for three 1,500-pound boilers equipped to burn either liquid or gas fuel. These will deliver steam at a temperature of 950°. The boiler-plant capacity must be sufficient to supply both refinery and power-plant demands simultaneously. The refinery will require about 720,000,000 pounds of steam annually. A single giant steam turbine will be installed in the power plant which will drive a 35,000 kilowatt A. C. generator. The refinery's maximum electrical requirement will be about 8,000 kilowatts, and its yearly consumption will approximate 54,000,000 kilowatt hours. At this rate the power concern will have available 27,000 kilowatts after supplying the refinery.

When the new plant is completed the refinery will require very few alterations in making the change-over to the new power system. It is being supplied at present with Pacific Gas & Electric Co. power, so it will only be a matter of introducing this from a new source. Steam-generating equipment in use will be removed for



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Further information on Goulds Pumps and their application to the petroleum industry will be sent on request.

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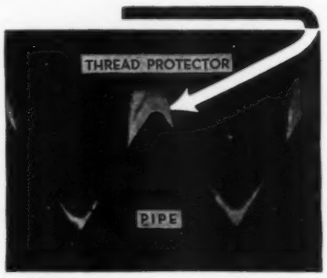

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use elsewhere. Construction work has been in progress for some time at the Avon refinery, cracking and polymerization equipment being added. These additions have been designed to make the greatest possible use of the future power system. Recently electric-motor drives were adopted for all pumps in the new units in place of the steam turbines and gasoline engines called for by the original plans.

It is understood that a tentative agreement has been reached calling for construction of another power plant of the same capacity and design at Shell Oil Co.'s Martinez refinery, which is also located on San Francisco Bay. At present a new topping unit is being constructed at this refinery. There is also a possibility of a third power plant being erected at another San Francisco Bay refinery. The expenditure of from $5,000,000 to $15,000,000 in new plants to utilize oil and gas in electro-generation can be considered a strong indication as to the future of oil and gas in the light and power industry.

California Growers Are Storing Heating Oil to Fight Frost

LOS ANGELES, Calif.—Approximately 4,000,000 gallons of orchard heater oil are stored in Upland, Alta Loma, Cucamonga and Etiwanda, California, as part of the preparedness program against frost. About half of the amount stored is controlled by Orchard Protection Co., a mutual concern serving members of four citrus associations. Mountain View Fruit Association, Upland; Growers Service Co., Cucamonga, and Alta Loma Heights Citrus Association are others that have nearly doubled their storage facilities since January, 1937.

Rather than rely only on oil handled by these mutual concerns, many individual growers have installed additional storage tanks on their own groves. These private storage tanks are reserve supplies. Inability of transportation companies to bring additional oil from the refineries to the citrus district during January emergency resulted in many groves being unheated, with a total loss of crop for some growers. For this reason additional storage tanks have been erected and filled.

Shell Christmas Show Features American Life in 1960

Traveling in a car of the "tear drop" design, the annual Shell Christmas Show will reach Los Angeles early in December, and will give local

residents thrilling glimpses never before revealed of the scientific wonders which the future will bring to American life. The Shell car is built so that the body swings open to reveal a completely equipped stage, where a company of professional entertainers will give the annual show which has become one of the popular institutions of the holiday season.

Focusing the spotlight of science on life in 1960, the program will show how people will live in that day. The scientist will grow a tree before the eyes of the audience by pouring a can of concentrated climate on the seed. Ice will be made simply by breathing on water. A photograph will be taken and the picture will come fully developed and printed right out of the camera. Water will be changed into soda pop and the soda pop into milk by chemically rearranging the molecules of the liquids.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Offset Laws of Oklahoma and Texas

Will you please advise me what the laws in Texas and Oklahoma provide with reference to the drilling of offset wells? Will you also advise what the laws and rules in Texas and Oklahoma provide with reference to the development of an individual lease after a producing well has been completed? How fast and how thick can the owner of the property force the holder of the lease to drill new wells?—H. W. S.

The questions asked in your letter are largely legal in character and to be properly answered you should refer your lease agreements to an attorney for opinion.

According to Samuel H. Glassmire in his book "Oil and Gas Royalties" the obligation to commence a well has been construed by the courts to include preparations for drilling, such as hauling lumber for the erection of the derrick or any preliminary work, the clause not meaning the commencement of actual drilling.

The words in the habendum clause of a lease "as long thereafter as oil or gas is produced" or "produced in paying quantities" have substantially the same implication, and mean in paying quantities to the lessee over and above the operating expenses only, though the well itself may never repay its actual cost and the operations as a whole prove unprofitable. The rule is otherwise when the words are used in reference to further drilling or to the implied obligation to drill off-set wells. In that case "paying quantities" means paying a profit above the whole cost of drilling, equipping and operating.

This quotation would seem to imply that the land owner cannot force a lessee to start or drill off-set wells if the whole operation can be proven to be unprofitable. The laws of Texas and Oklahoma that you have in mind are not conservation laws or laws dealing specifically with the operations of the oil industry but rather the common law and under common law the decision of a court is necessary to determine the interpretation to be placed upon the lease. There are several lease forms used and numerous types of land upon which leases are granted. For instance there are homesteads, Indian land, state and school land, federal land and other classifications of the public domain which would have to be considered in giving an opinion upon the questions you ask.

There is a law in Texas which permits the Railroad Commission to issue special permits to drill upon fractions or small pieces of ground. These permits are needed when the well spacing in a field has been established and the person seeking the special permit desires to space his wells at some distance less than the standard spacing. You can secure copy of that law by writing to the secretary of the Railroad Commission of Texas, Austin.

In Oklahoma the Corporation Commission, Conservation Department, rules upon well spacing but well spacing is not to be confused with requirements to drill. The state regulatory bodies do not tell lease owners when they are to drill their wells but there are instances in which they will issue orders governing the spacing of wells. In most instances the well spacing program has been agreed upon by the majority of the owners of leases in the particular field.

If there is more specific information you desire you might write to the Railroad Commission at Austin, Texas or the Conservation Department of the Corporation Commission of Oklahoma, Capitol Bldg., Oklahoma City, Okla. Or you might consult an attorney and secure his opinion about your specific lease.

Geophysical Methods

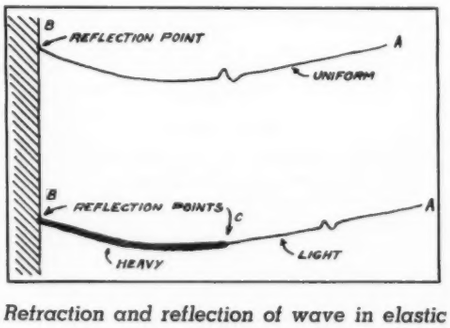
I am interested in securing a brief history of the methods used in locating oil with such instruments as the magnetometer, torsion balance and seismograph. I do not have a clear idea of the difference between refraction and reflection seismograph and especially want to get this distinction clear. What information on the oil industry does the U. S. Bureau of Mines supply?—S. L. D.

There is a series of articles upon the use of the magnetometer, seismograph and torsion balance, also on the electrical methods, to be published in The Oil and Gas Journal beginning with one on the magnetometer in an early issue.

It is difficult to describe the difference between the refraction and reflection seismograph methods in simple language but it is hoped the following description taken from an article by Eugene McDermott, published in the November, 1931, Bulletin of the A.A.P.G., will be of assistance.

The science of seismography derives its value from the fact that earth materials are elastic and this elasticity has extensive variations. The term seismography as used herein applies to the science which utilizes elastic waves artifically generated, as by an explosive charge.

In general, all materials are elastic, but in varying degrees. By elasticity is meant the resistance a material offers to changing its volume or form when subjected to stress. When stressed a material yields. This yield or change in volume or form is known as a strain. Elasticity may now be defined more accurately as the ratio of this



Refraction and reflection of wave in elastic rope

stress to the resulting strain. This strain is propagated through the material with a definite velocity which is a function only of the elasticity and density of the material. This wave of strain is propagated in all directions in a straight line if the material is homogeneous, or, more accurately stated, the wave front is spherical. If the material is not homogeneous the path is curved, that is, the wave is gently refracted, and the wave front is no longer spherical. At the contact plane between materials of definitely different physical constants, both refractions and reflections occur simultaneously. Part of the energy in the wave is transmitted through the second material in a direction different from its course in the first material, at the same time that some of the energy in the wave is thrown back as a reflection.

A very instructive illustration of these phenomena is given in the accompanying sketch. In the upper part of the sketch a rope fastened to a wall at B is held at the other end in the hand. A quick movement of the hand at A starts a wave down the rope. This wave travels at a definite velocity for a specified weight of rope. On reaching B, most of the energy in the wave is reflected back toward A. A small part of the energy is refracted and actually causes the wall to move, though very slightly. This illustrates a very efficient reflecting contact between two media.

If, as shown in the lower part of the sketch, two ropes of different weights are fastened together at C, a somewhat more complicated example of the same phenomena presents itself. In view of this difference in weight, the velocity of a wave is different in the two ropes. A wave traveling down the light rope from its starting point at A is partly refracted and partly reflected at the junction of the two ropes, C, as well as at B. On reaching C a reflected wave starts back toward A and a refracted wave starts traveling toward B in the heavy rope at a slower speed than the original wave travelled in the light rope. On reaching B this wave is mostly reflected as in the previous illustration. B is, of course, a much better reflecting point than C, because the wall is much more rigid than the rope. It should be borne in mind that at a junction point where refractions and reflections occur, the sum total of the energy in the refracted and reflected waves equals the energy in the original wave. A good reflector point, therefore, means one at which a large part of the arriving energy is reflected back while a small part travels on as a refracted wave.

The previous illustration deals with points of contact between two media. Practically, the geophysicist is concerned with planes of contact between solid earth materials of different elastic properties. Though this case is obviously more complicated, the same fundamental theory applies. The device of the ropes admirably illustrates the occurrence of reflections, but does not demonstrate the special case of refractions, of greatest value in seismography.

While the above description gives only general information about these two methods of seismography it would be difficult to go into more details in this letter but you are referred to Mr. McDermott's article for further details of applied seismography. Copy of the bulletin may be secured from headquarters of the American Association of Petroleum Geologists, Wright Building, Tulsa, for $1.50 per copy.

To secure information about the work of the petroleum division of the U. S. Bureau of Mines it is suggested you write to that department in Washington, D. C., for a copy of the index of their publications. That is the simplest way of learning what they are doing and the kind of information being furnished the oil industry by that department.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Lisbon, Louisiana, Oil Yields High Quality Products

Please give me information covering the quality of Lisbon, Louisiana, crude oil. I should like to have the distillation products and sulfur content, and want to know if the straightrun gasoline would have to be treated to meet government specifications.—J. N. S.

The Lisbon, Louisiana, oil has attracted attention because the light oils, produced by direct distillation, are exceptionally pure. The low octane value does not permit fractionation for U. S. Government Motor Gasoline, so it is advisable to finish with a low endpoint, about 325° F., to raise the octane value to approximately 50, and then use lead to market requirements.

ANALYSIS OF LISBON OIL

Claiborne Parish, Louisiana

Gravity, A.P.I.	34.2
Sulfur, per cent	1.3
Viscosity at 100° F.	60
Pourpoint, deg. F.	15
B.S.&W., per cent	1.0
Base	Paraffin
Color	Black
Products—	**Per cent**
Gasoline	24.0
Gravity, A.P.I.	65.9
I.B.P., deg. F.	116
50 per cent	248
90 per cent	332
Octane No.	41.5
Color	30
Kerosene	12.5
Gravity, A.P.I.	48.4
Color	30
I.B.P., deg. F.	338
95 per cent	488
Gas oil	41.0
Gravity, A.P.I.	30.9
Flash, deg. F.	250
Residue	21.5
Gravity, A.P.I.	10.0
Flash, deg. F.	590

Note—Gasoline and kerosene meet sulfur, doctor and corrosion specifications without treatment. With cracking the oil should yield a total of about 50 per cent gasoline.

Summary of Factors Influencing Use of Alcohol Motor Fuels in U. S.

I would greatly appreciate your furnishing any information covering blending of methyl alcohol with gasoline to increase octane rating and what is the effect of using methyl and ethyl with gasolines of 60, 64, 66, and 70 octane numbers?—R. L. H.

The use of the primary alcohols for motor fuel has been studied by many authorities, so there is extensive literature on the subject. A very brief summary of the subject is presented.

There are a number of countries where the price of gasoline is high, which produce large quantities of alcohol, available at a lower cost. Many of these countries are in control of the alcohol industry and in several monopolies are granted, a condition which naturally results in a requirement that some alcohol shall be added to gasoline used for motor fuel. The usual percentage added to gasoline varies between 5 and 20 per cent. Undiluted alcohol is not used for motor fuel.

There are several objectionable features. The production cost of alcohol is higher in the United States than for gasoline. It is a powerful solvent which will cause leaks and stain body parts of the automobile. A small quantity of water, which is readily absorbed by alcohol, will cause the alcohol to separate resulting in uneven operation of the engine. A high compression ratio, up to 12-1, is desirable; this requires special engine design. Alcohol motor fuels cannot be expected to be easily distributed and made available to the motorist on a scale comparable with gasoline. It has power starting qualities and does not give equivalent mileage.

Nash and Howes devote considerable space to alcohol motor fuels. The material following is based on their data, with reference to the original authorities.

A fuel containing 30 per cent benzol tested 66.5 octane number, which was increased to 73 upon addition of 5 per cent methanol and 3 cc. tetraethyl lead. An aviation gasoline of 65 octane number tested 68 with 5 per cent ethyl alcohol and 77 octane number with 15 per cent, according to Dumanois.

Howes found that 10 per cent methyl alcohol in gasoline increased the octane rating about the same as the addition of 18-20 per cent benzol. Ross and Ormandy found the same relation for ethyl alcohol.

The colorific values indicate, with same compression ratio and overall efficiencies, the relative fuel consumptions for a given power output shown in the table.

FUEL TO POWER OUTPUT

Gasoline	100.0
Ethyl alcohol	161.4
Methyl alcohol	221.6

Therefore, the cost of ethyl and methyl alcohols should be less than

$$\frac{100}{161.4} \times \text{gasoline cost and} \quad \frac{100}{221.6} \times \text{gasoline cost}$$

Accepting 34 cents per gallon as the cost of gasoline in the United Kingdom, this is equivalent to 21 cents per gallon of ethyl alcohol and 15.4 cents per gallon of methyl alcohol; lower than the cost of manufacture.

References: Nash and Howes, Principles of Motor Fuel Preparation and Application, Chap. IX, p. 349. P. Dumanois, Rev. Petr., 444, 1923, 1931. D. A. Howes, J. Inst. Pet. Techn., 19, 301, 1933. Ross and Ormandy, J Soc. Chem. Ind., 95, 273T, 1826.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Methanol

(Methyl Alcohol)

Use—Antifreeze for automobile circulating cooling system. Solvent extraction.

Form — Colorless liquid, inflammable, poisonous.

Formula—CH_3OH.

Specific gravity—0.7864.

Freezing point—144° F.

Boiling point—148° F.

Solubility — Water, one-third; alcohol and ether all proportions.

LIMITATIONS

Specific gravity—0.795 to 0.8 at 68° F.

Acidity max., %—0.01 as formic.

Water max. %—0.10.

Acetone max. %—0.10.

Boiling range—145° F. to 153° F.

Note.—The pure product contains 99.5 per cent methanol. Commercial grades should contain 95 per cent.

Explosive Limits of Mixtures of Air and Hydrocarbon Gases

We are injecting 120,000 feet of casinghead gas back into the sand which we wish to increase to 200,000 feet with air. What percentage of air can we mix with this gas and still be safe from danger of explosion? How can we tell that we are not getting too large a per cent of air into the compressor cylinders at any time?—M. C. C.

Mixtures of hydrocarbon gases with air, or the vapors from petroleum liquids, are explosive when present within certain limits designated the lower and upper explosive limits. Below the lower there will be no reaction in the presence of a spark or flame and above the upper limit the gas or vapor will simply burn.

For the heavy vapors, such as those from gasoline or oil, these limits may range from 1 to 6 per cent by volume of the vapor in air. The upper limits rise as the specific gravity of the gas becomes lighter. A vapor or gas from butane may have an upper explosion limit of so much as 8.5 per cent. Natural gas has been found to go to 15 per cent for the upper limit and to about 2 per cent for the lower.

The limits mentioned are all within explosive range, violent and powerful explosions may occur if mixtures of these compositions should be ignited.

It is advisable to keep the concentration of natural gas in an air mixture high enough to furnish a combustible gas. The simplest control being a draw-off line run a safe distance to a burner where the gas is kept ignited. Actual determinations for air may be made either by chemical analysis or automatic apparatus.

Expansion Factors Or Volume Multipliers for Hot Oil

We would be glad to have information giving the tables of expansion factors or volume multipliers for hot oil.—R. J. M.

There have been several publications of the U. S. Bureau of Standards relating the thermal expansion of oils at various temperatures. The miscellaneous Publication No. 9, Thermal Properties of Petroleum Products, 1929, contains tables covering temperature ranges 0° to 500° F. Measurements of the thermal expansion, made 1912 to 1915, of oils ranging in A.P.I. gravity 16° to 97° (converted from sp. gr.) are reported in Tech. Paper No. 77. These were later used for the extensive data in Circular 154, National Standard Petroleum Oil Tables. The values of V_{60}/V represent volumes at 60° F. of a unit volume at indicated temperature t° F.

Example: A gallon at 350° F. will measure 0.9031 gallon at 60° F. The data were calculated from $V_t = V_{60}\,[1+A\,(t-60) + B\,(t-60)^2]$. Using A = 0.000341 and 13 = 0.0000001, which is

Temp. °F.	Mean coeff. expansion
60-150	0.00035
60-250	0.00036
60-350	0.00037
60-450	0.00038

The latest revision of Circular 154 is Circular 410. The tables of the A.S.T.M. Standards on Petroleum Products are based on the above. The suitable temperature for use with the gravity tables may be between 0 and 195° F.

Heat Transfer Rates Discussed Before Mechanical Engineers

By H. STANLEY NORMAN

NEW YORK, Dec. 7.—Mechanics of process control, heat transfer, lubrication and oil and gas fuels for power were among the topics of interest to oil refiners and the industry at large discussed this week before the 1937 annual meeting of the American Society of Mechanical Engineers. The hundreds of engineers attending the meeting at the society's building in New York City spent the first four days of this week listening to and participating in authoritative discussions of mechanical problems, many of which are directly or indirectly associated with the oil industry.

Using problems arising in the operation of oil-cracking plants as typical, Donald J. Bergman, engineer, Universal Oil Products Co., discussed application of automatic control in the oil industry. Without the development of automatic control to extend over almost every important point in the cracking unit, Mr. Bergman said the high quality and yield of gasoline, quality of fuel oil and length of runs which are now commonplace would be impossible. He traced application of automatic control in the refining industry from the early stages to the present universal use. The two points to which automatic control was first succesfully applied, Mr. Bergman said, were in regulating the discharge of gas and distillate from the product receiver. The reduction in man power and the closer control by automatic instruments made possible smoother operating conditions and produced economies which were later spread to other parts of refineries.

"To aid the engineer in making the right selection," Mr. Bergman stated, "an improved system of classification of control equipment and its limitations, as well as the criteria and quantitative methods for selecting the proper type of control from fundamental data in the process, is highly desirable. This would make control problems easier of solution by definite rules rather than by expensive 'cut and try' methods."

E. S. Bristol and J. C. Peters of Philadelphia, Pa., in charge of automatic control and combustion control division and research engineer, respectively, for Leeds & Northrup Co., stated in general that "considerable ground exists for adoption of the term 'automatic regulation' in preference to 'automatic control' as applied to the broad subject under consideration." After discussing various phases of the control or regulating problem, Mr. Bristol and Mr. Peters presented a lengthy list of suggested terminology for application to this phase of the industry.

In his study of "Experimental Investigation of the Influence of Tube Arrangement on Convection Heat Transfer and Flow Resistance in Cross Flow of Gases Over Tube Banks," Orville L. Pierson of New York, analytical engineer for Babcock & Wilcox Co., used a small test furnace. The studies and new measurements of the convection heat transfer rate between gases and tube banks, with corresponding pressure drop for transverse flow, were made as part of a research program to determine the effect of varying the spacing of tubes of identical size.

"These tests," said Mr. Pierson, "have demonstrated that both convection heat transfer and flow resistance of tube banks vary markedly with changes in tube arrangements. No simple statement of the variation was found possible. It was also found, the speaker said, that the rate of change of these characteristics with changes in the Reynolds number was regularly related to the tube arrangement."

To establish the effect of tube size as a factor in heat transfer and pressure drop for gases flowing transversely over tube banks of a given tube arrangement, experimental determinations were explained by E. C. Huge of Barberton, Ohio, and compared with the results obtained by Pierson. Mr. Huge, engineer in the research and development laboratory of Babcock & Wilcox Co., said that his experiments were considered in close agreement with the small scale results obtained by Pierson with reference to both convection conductance and flow resistance. Tests appear to indicate a definite temperature effect, Mr. Huge said, and suggested that further investigation should be made of this point. Attention was called to the fact that temperature effect may be a function of tube arrangement and that in order to warrant definite conclusions it may be necessary to test several arrangements.

In analyzing the work done by Pierson and Huge, E. D. Grissom of New York, analytical engineer with Babcock & Wilcox, said the most important overall results of the work is the large amount of reliable information on relative performances of tube banks of a wide variety of arrangements. The resulting greater certainty of design calculations should make for better balance and economy of design, and for lower service cost to meet guarantees if the data are properly applied, Grissom stated. "As already indicated," said Grissom, "the data on flow resistance are applicable directly to calculation of pressure drop in commercial cross-flow tube banks, with proper provisions where necessary for unequal flow across banks in which 'lanes' or other irregularities occur. Theoretically, they may also be applied to turbulent flow of liquids."

"The utility of the convection data is of highest order when they are incorporated in a complete analytical treatment of thermal performance; one which identifies and properly combines the effects of major thermal resistance. These are in general gaseous radiation in intertube spaces in parallel with convection, the corresponding gas-boundary resistance being in series with resistances of dirt, soot, scale, coke or other solid deposits on tube surfaces and with that at the boundary of the receiver fluid," Grissom said.

A multitude of other subjects were discussed by the engineers during their four-day meeting. Several papers were presented dealing with various applications of diesel power either entirely or in part and others touched on air conditioning, shut-off valves on pipe lines and many other subjects related to the oil industry.

Course of Cracking Litigation Is Simplified by Agreement

Further simplification of cracking litigation was effected December 1 when nonexclusive rights to grant licenses under patents owned by the Texas Co. and the Gasoline Products Co. were purchased by the Universal Oil Products Co. Under the arrangement Universal now may offer immunity to its present and future licensees from litigation involving cracking patents owned by these companies, including the Behimer patents.

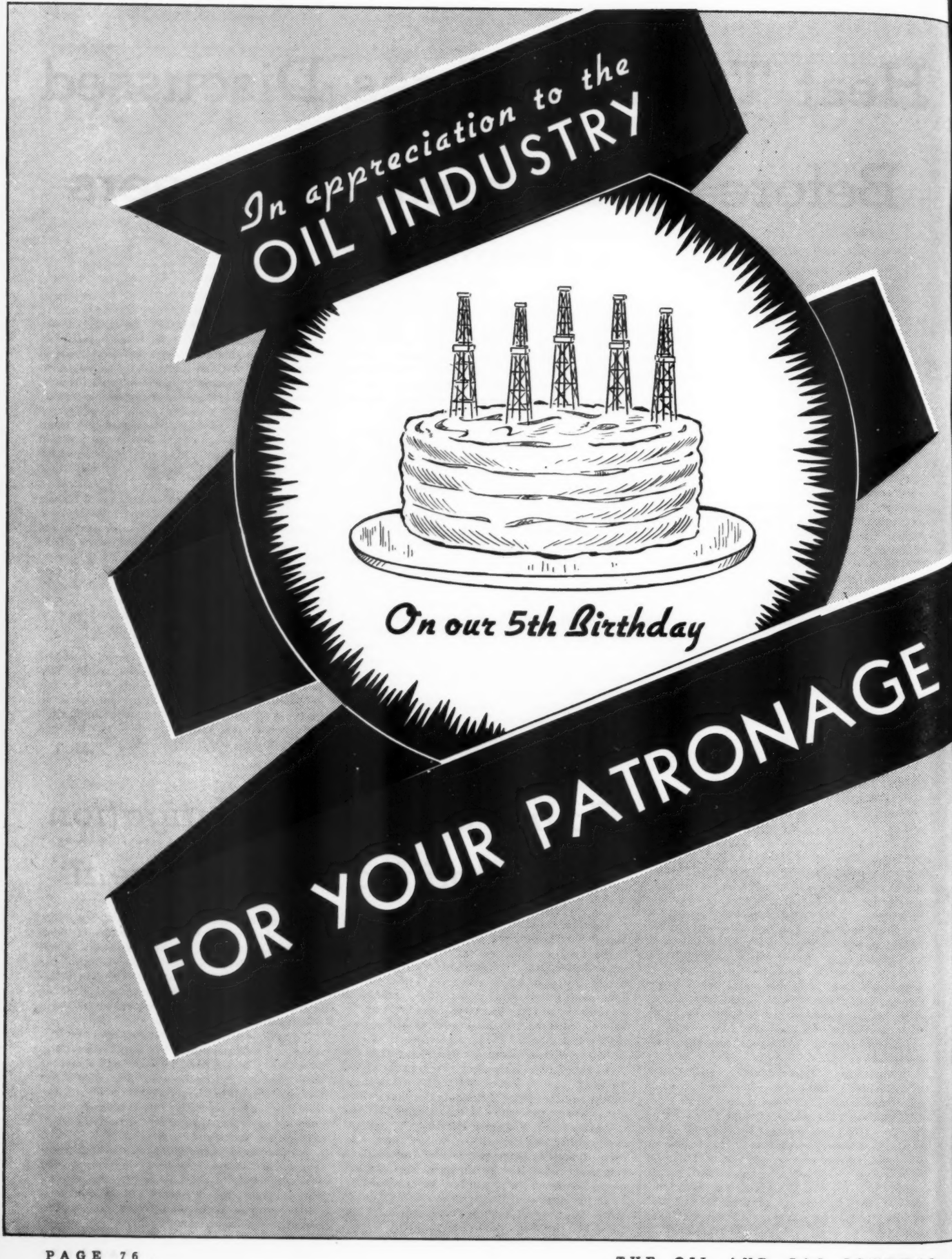
The immediate result of this action will be the dismissal of the infringement suits brought by the Texas Co. against Solvex Refineries, Inc., Sunray Oil Co. and the National Refining Co. Suits which are now being prosecuted by the Gasoline Products Co. against the Waggoner Refining Co. and the National Refining Co. will be dismissed in view of these companies being licensees of Universal. A suit being prosecuted by Universal against Chalmette Petroleum Corp. will also be dismissed.

In the agreement Universal retains its right to bring infringement suits against licensees of the Texas Co., Gasoline Products and others.

The agreement was affirmed and signed by officers of the Standard Oil Co. of New Jersey, Standard Oil Co. (Indiana), Atlantic Refining Co. and the Gulf Oil Corp. in addition to officers of the companies previously mentioned. It might be remembered that a similar agreement was made between Universal and the Consolidated Oil Corp. some months ago.

Simultaneous with the announcement that this agreement had been signed, Donnelly Process Corp. announced that it is now in a position to obtain for its present and future licensees immunity under the patent rights of Universal. Since July 1, 1936, Donnelly has had the right to grant licensees under cracking patents controlled by the Gasoline Products Co. and the Texas Co.

In addition to simplifying the cracking litigation which has grown to be a very complicated entanglement to be administered by the oil company personnel, the agreement will avoid oil companies paying out large sums of money for the prosecution or defense of such cases.


In appreciation to the
OIL INDUSTRY
On our 5th Birthday
FOR YOUR PATRONAGE

FIELD OPERATIONS

Summarizing the Week's Developments

The second producer in the new Graham area of southwestern Tillman County, Oklahoma, in section 1-3s-19w, had a natural flow of 314 bbls. of oil in 15 hours, after swabbing 500 bbls. in 24 hours. Hunton lime production was uncovered on the west side of the Allen pool in Seminole County, section 26-5-7. The Fitts field in Pontotoc County was given a boost with the first large Wilcox sand producer in several weeks in section 28-2n-7. A deep test in section 27-2s-3w, Carter County, was being deepened after failing to produce at 7,909 feet.

TEXAS

A new producing spot in northwestern Pecos County, in the West Texas district was responsible for the start of two other wildcats, one in Pecos and the other in Ward County. Gulf Oil Co. No. 6 Waddell and others found only sulfur water in the Ordovician lime from which other wells on the lease produce. A wildcat in western Martin County was abandoned at 4,780 feet after uncovering sulfur water. The Seminole pool in Gaines County was extended a quarter of a mile south by Amerada Petroleum Corp. No. 1 Averitt, a 200-bbl. well. Fifteen wells were completed in the Pampa district, Gray County, in the Panhandle with a combined initial production of 6,112 bbls. open potential flow. Seven new wells in Hutchinson registered a combined potential of 2,246 bbls. Operators in the Kemp City, or K.M.A., 3,800-foot pool in Wichita County, were waiting for the impending completion of three outposts. A 400-bbl. well at 5,920-44 feet in the Port Neches field in Coastal Texas will be followed by flank drilling in that area. A new pool was opened in northwestern Chambers County. A 474-bbl. well in the Hitchcock pool, Galveston County, makes that pool look better as the discovery well was small. A new pool was uncovered in Starr County, Southwest Texas.

KANSAS

The North Medicine Lodge pool, Barber County, Kansas, was extended westward in section 30-31-11w. A pool opener was completed in section 36-27-2e, Sedgwick County.

CALIFORNIA

The Avenol (Eocene) zone in Kettleman Hills, California, has been uncovered at 10,352 feet in another deep test, which is expected to make a large producer and hasten the beginning of development on a considerable scale. A new productive area east of the Brea Olinda and Coyote fields is expected when a test in section 16-3-9 is completed.

TEX-LA-ARK

Crude oil buyers and pipe lines serving the Rodessa field in Miller County, Arkansas, cut purchases and crude runs in the past week in an attempt to bring the area down to the Rodessa, Louisiana, level in per-well production. In Columbia County, Arkansas, the discovery well in the Buckner pool was acidized, and produced 1,368 bbls. of oil in 19 hours through various size chokes. Its completion record was 19 bbls. of oil per hour flowing through 2½-inch open tubing. The Lisbon, Louisiana, pool was given an eastern extension.

Completions in All Fields

(Week Ending December 4, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
N. Y., Pa., W. Va.	78	21	7	106	4,277	3,790
Ohio	11	12	9	32	1,166	817
Indiana	0	0	0	0	107	185
Kentucky	13	6	2	21	670	308
Illinois	11	0	14	25	299	35
Michigan	16	1	7	24	760	766
Kansas	32	1	24	57	2,462	1,622
Oklahoma	19	8	10	37	2,467	2,449
Texas:						
North Central Texas	17	1	17	35	2,546	2,567
West Texas	34	0	9	43	2,489	1,518
Texas Panhandle	20	4	0	24	765	620
East Texas	65	0	3	68	2,244	2,385
East Central Texas	8	1	2	11	669	379
East Texas Border	4	0	0	4	310	174
Gulf Coast Texas	25	0	5	30	1,452	1,181
Southwest Texas	30	2	12	44	2,985	2,731
Total Texas	203	8	48	259	13,460	11,555
North Louisiana	13	2	6	21	622	631
Gulf Coast Louisiana	5	1	6	12	428	383
Total Louisiana	18	3	12	33	1,050	1,014
Arkansas	3	0	1	4	167	85
Montana	2	0	1	3	214	236
Wyoming	1	1	0	2	102	123
Colorado	0	0	0	0	18	29
New Mexico	14	1	0	15	656	536
Utah	0	0	0	0	4	7
California	23	0	4	27	1,398	1,074
Total United States	444	62	139	645	29,277	24,631
Total previous week	405	52	109	566		
Difference	39	10	30	79		

Outstanding Fields—Highlights

(Week Ending December 4, 1937)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Hastings	5	20	14	8,048	407	19,437
McCampbell	3	7	4	1,044	88	3,986
Saxet	4	17	2	245	579	44,437
Benavides	2	12	3	387	107	5,386
East Texas	40	87	65	3,124	24,075	416,898
Talco	3	29	8	2,056	563	32,000
Ector County	12	50	12	11,673	752	29,475
Winkler County	12	15	5	3,270	1,511	43,110
OKLAHOMA						
Fitts	8	13	2	301	944	82,225
Billings	1	4	0	0	57	7,475
KANSAS						
Ellis County	7	30	3	2,794	255	8,965
Barton County	11	42	9	6,807	285	9,630
Russell County	12	47	4	3,614	954	28,755
Rice County	8	35	2	1,881	1,033	32,980
NEW MEXICO						
Lea County	9	109	14	7,440	656	96,750
LA-ARK-TEX						
Rodessa, Ark.	1	13	2	2,250	47	11,171
Rodessa, La.	3	15	1	1,560	424	43,087
Rodessa, Tex.	1	14	4	845	378	16,597
Lisbon, La.	4	12	6	4,080	146	7,400
Jennings, La.	0	15	3	620	82	14,835
MICHIGAN						
Buckeye	9	60	9	3,970	309	25,164
CALIFORNIA						
Wilmington	5	23	6	9,012	326	65,150
ILLINOIS						
Central Illinois	30	115	11	1,219	218	18,800

Eastern Field Report

By STAFF CORRESPONDENT

18 MILLION FEET PER DAY IS RECORD OF POCA GAS WELL

PITTSBURGH, Pa., Dec. 6.—Two deep tests in West Virginia are definitely through the Oriskany sand, which proved unproductive. In Harper district, Roane County, the Ohio Valley Gas Co. reached 5,448 feet on the M. C. Larch farm in Harper district without striking oil, gas or water. The sand was topped at 5,391 feet.

In Cabin Creek district, Kanawha County, Pure Oil Co. deepened No. 6 Slaughters Creek Coal Land Co. to 5,193 feet, through the Oriskany sand, and it was also barren of gas, oil or water. It is east of the Warfield anticline. Godfrey L. Cabot, Inc., on the Arabella D. Huntington lease, found the Oriskany barren over a year ago. It is 4½ miles north and 13 miles east of the Pure test.

One Oriskany-sand gasser in the Poca district in West Virginia started at 18,000,000 feet, and was the largest gas producer of the week.

The test of W. H. Bickel on the Reese Blizzard farm south of South Parkersburg, in Tygart district, Wood County, West Virginia, topped the Helderburg at 4,664 feet with no additional production added to that found in the top of the Oriskany sand. It is drilling at 4,681 feet and will be carried down 100 feet before shutting down for orders. The oil and gas now has decreased probably due to the natural cementing of drilling.

SOUTHEAST OHIO

The best well for the week in Southeast Ohio was that of Claremont Oil & Gas Co. on the J. B. White farm, section 4, Union Township, Knox County. It was completed in the Clinton sand at 2,780 feet, a gas well gauging 1,000,000 feet a day.

In Cuyahoga County, H. B. Walker and others drilled No. 5 C. Carey farm, Lot 12, Independence Township, through Newburg sand to 2,513 feet, and it was dry.

In Licking County, C. R. Settles and others completed No. 3 P. F. Shannon, section 15, Mary Ann Township, in Berea sand at 765 feet. It is a 5-bbl. pumper. In section 4, Hanover Township, North Fork Oil Co. completed No. 12 John C. Williams in Berea grit at 650 feet, a 2-bbl. pumper.

In Medina County, E. R. Edson & Son Co. completed No. 39 W. H. Wideman, Tract 1, Lot 3, Chatham Township, in Berea grit at 536 feet. It produced one-half barrel the first day after shot. On Tract 14, Lot 4, same township, this operator completed No. 35 Carl G. Packard in the Berea grit at 389 feet and it produced 1½ bbls. the first day after shot.

On Tract 3, Lot 20, Chatham Township, Medina County, Shamrock Oil Co. completed No. 12 Meyers in Berea grit at 476 feet, a 3-bbl. well after the shot. On Tract 16, Lot 21, same township, D. A. Eakin drilled Nos. 16 and 17 Harriet Broadsword farm through the Berea grit to 400 feet each, and both were dry.

In Muskingum County, the Edward H. Everett Co. and others completed No. 2 Gertrude M. Vroom, section 5, Licking Township, in Clinton sand at 3,300 feet. After the shot it produced 10 bbls. the first day.

In Perry County, the Corning Producing Co. completed a gas well on the Sunday Creek Coal Co. lease in section 21, Monroe Township, in Clinton sand at 3,666 feet. It gauged 700,000 feet a day. In section 8, Reading Township, Ohio Fuel Gas Co. test on the Levi Yauger farm, in the Clinton sand at 2,935 feet, gauged 400,000 feet a day. In section 2, Monroe Township, Big Run Oil & Gas Co. test on the C. L. Weaver heirs farm, in the Berea sand at 1,062 feet, gauged 500,000 feet a day.

In Washington County, on Gossetts Fork, section 19, Liberty Township, William B. Depuy and others test on the George B. Epler farm was drilled through the second Cow Run sand to 980 feet and it is a very light gas well.

SOUTHWEST PENNSYLVANIA

One producer, six gas wells, and a dry hole were added to Southwest Pennsylvania operations during the week. In Center Township, Greene County, Carnegie Natural Gas Co. completed No. 3 J. W. Milliken as a producer. The Nineveh Thirty-foot sand was topped at 3,115 feet with an oil and gas show at 3,122 feet and about 20 bbls. a day at 3,136-38 feet and some added gas.

In Washington Township, Greene County, the Equitable Gas Co. test on the Pratt Yeager farm topped the Fifty-foot sand at 2,766 feet with 736,000 feet of gas at 2,778 feet, and drilling stopped at 2,779 feet. Same company's No. 2 F. P. Iams was deepened from 1,991 feet to 3,278 feet. There was about 45,900 feet of gas at 2,055 feet, which will be produced.

In Monongahela Township, Greene County, Fred Garrison completed the test on the Stoneking farm at 1,935 feet in the shale and it is good for 73,000 feet a day. In Dunkard Township, the Convex Glass Co. halted drilling in the test on the VanVoorhis farm to produce the Fourth sand gas, total depth 2,618 feet, and a gauge of 100,000 feet a day. In Richhill Township, the Manufacturers Light & Heat Co. deepened the Albert Lyons No. 1 to 2,642 feet and found no added gas.

In Springhill Township, Greene County, the J. H. McNichols & Co. No. 3 J. W. McNichols had a large show of gas in the Murphy sand at 1,420 feet. The Pittsburgh Coal was at 1,102-08 feet and in the 10-inch casing the gauge showed 2,911,000 feet a day.

In Washington County, the Keystone Gas Co. completed a test on the H. W. Davidson farm in North Strabane Township at 1,134 feet. The Salt sand was at 1,069 feet and at 1,128 feet the well produced 500,000 feet of gas a day. The same company is drilling at 2,860 feet on the J. T. Beabout farm. In Peters Township, R. M. Duden and others are drilling at 2,180 feet in No. 2 J. W. Johnston. In South Strabane Township, Penn Ohio Oil & Gas Co. shut down at 3,845 feet in the test on the Porter Brothers farm.

In East Finley Township, Washington County, Parkinson, Plants and others are drilling at 850 feet No. 1 L. A. Phillips. In Morris Township, Duquesne Gas Co. is down 1,810 feet in No. 1 D. B. Hughes.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is drilling at 1,580 feet in the P. W. Reynolds test, and at 1,586 feet in the F. M. Closser test. In South Franklin Township, the South Penn Oil Co. is drilling Piedmont Coal Co. No. 2. F. K. Fawcett and others are down 2,635 feet on the Clarissa Ramsey (Bonham) farm. In South Franklin Township, Carnegie Natural Gas Co. is drilling at 2,847 feet in No. 3 Alberta Iams.

In Greene County, Carnegie Natural Gas Co. is drilling at 910 feet in No. 2 Sadie A. Connor. Charles Mong and others are down 750 feet in No. 2 Jacob Johns. Both are in Washington Township.

In Center Township, Greene County, the Rutan Oil Co. is cementing the break above the Nineveh Thirty-foot sand in No. 4 Harvey Heirs. Charles Mong and others are drilling at 2,750 feet on the J. L. Metz (Wier) farm.

In Springhill Township, Greene County, Equitable Gas Co. is deepening No. 1 P. D. Phillips from 2,336 feet and has reached 3,244 feet. The Taylor Oil & Gas Trust has reached 1,300 feet in No. 5 John Taylor and Southwest Penna Gas Corp. is underreaming at 1,505 feet No. 3 Thomas Smith.

In Wayne Township, Greene County, Equitable Gas Co. is down 2,084 feet in No. 2 Sanford C. Brock. Manufacturers Light & Heat Co. is drilling at 2,130 feet and cementing caves in No. 3,557 Haddie J. Ross farm. Eddy & Johnson are down 600 feet on the E. W. Maple farm. In Richhill Township, Smith McCracken is drilling at 2,500 feet Asa Hughes test.

Deep Tests

The test of Norwood P. Johnston and others on the James McBurney farm in Mount Pleasant Township, Washington County, has now reached the stage where the Oriskany sand can be expected hourly. The depth is 6,653 feet or 178 feet in the Onondaga. The result of this test is of extreme importance to Southwest Pennsylvania.

In Beaver County, the test of John T. Galey and others on the James Tennis heirs in South Beaver Township, has reached 4,348 feet and at that point had to cement a small cave. Several gas blowouts in the shales were successfully handled. No reports of depth or formations are being given out in the test of the T. W. Phillips Gas & Oil Co. on the James Smith farm in the same township.

In Fayette County, the Potter Development Co., William E. Snee and others are drilling at 4,250 feet No. 2 Summit Hotel, Chestnut Ridge, South Union Township. In Hampton Township, Allegheny County, the South Penn Oil Co. and others have not recovered the tools in the test on the Christian Z. Schove farm.

WEST VIRGINIA

Five small producers were completed in West Virginia. In Lincoln County, the South Penn Oil Co. completed No. 2 S. O. Dunlap in Washington district in the Berea sand at 2,407 feet and it is good for 5 bbls. daily.

In Roane County, the Big Creek Oil Co. completed No. 2 Samuel Shaffer Heirs, in Walton district, at 1,661 feet as a 10-bbl. producer. The Salt sand was at 1,628 feet with the oil and some gas at 1,655-59 feet.

In Wood County, the South Penn Oil Co. completed No. 15 L. B. and W. S. Williamson in Union district in the Berea grit at 2,257 feet, and it is showing for 3 bbls. a day. In Wetzel County this company completed No. 3 J. W. Moore farm in the Gordon sand at 3,300 feet, and it is an 8-bbl. well.

In Wood County the Rutherford Oil Co. completed No. 13 Cuthbert and Carle in Grant district at 490 feet, the gas sand, and it is showing for 1 bbl. a day. In Walker district, Albert Congdon drilled No. 8 George Grant Heirs through the Berea sand to 2,250 feet and it was a dry hole.

Gas Wells

In Braxton County, the Pittsburgh & West Virginia Gas Co. completed No. 7,602 Ramsey and Bender, in Birch district, at 2,006 feet as a gas well gauging 100,000 feet a day. The Salt sand was at 1,547-62 feet; gas, 1,555 feet; Maxton, 1,595-1,643 feet; gas, 1,621 feet. In this district, this company completed No. 13 Parkersburg Mill in the Salt sand at 1,692 feet and it is good for 682,000 feet a day. In Otter district, C. J. Belknap and others completed a test on the C. J. Belknap farm in the Maxton sand at 1,708 feet and it is good for 1,000,000 feet a day.

In Calhoun County, the Hope Natural Gas Co. completed two wells. In Center district, the No. 7,797 on the Peil Estate was bottomed at 1,588 feet and it gauges 700,000 feet a day before shot. The Gas sand was at 1,095 feet with gas at 1,130-38 feet; Salt sand, 1,528, with gas at 1,562-64 feet. In Sherman district, this company completed No. 7,787 G. S. Wilson at 1,956 feet, with 134,400 feet of gas in Big Injun at 1,895-1,908 feet.

In Gilmer County, Phil D. Phillips completed No. 5 Belinda R. Fetty in Center district at 1,421 feet as a gas well, with gas at 1,365-68 feet, and 1,406-21 feet. The gauge before shot was 555,000 feet a day. In Glenville district, Louie Wohinc test on the Love S. Young farm was completed at 1,687 feet as a gas well gauging 850,000 feet a day. The Big Injun was at 1,600-1,680 feet. In the same district, the Pittsburgh & West Virginia Gas Co. completed No. 7,624 on the E. W. Lloyd farm at 1,816 feet good for 150,000 feet of gas at 1,788-99 feet, Big Injun sand.

In Kanawha County, Owens Illinois Glass Co. com-

(Continued on Page 94)

California Field Report

By
L. P. STOCKMAN

KETTLEMAN'S EOCENE ZONE PROMISES BIG PRODUCTION

LOS ANGELES, Calif., Dec. 6.—Superior Oil Co. found the top of the Avenal zone of Eocene age in No. 5 Huffman at 10,307 feet and unless something unforeseen develops deep zone exploitation will get under way in the Kettleman North Dome field before the close of the month. The company is coring in the Avenal sand at 10,352 feet and all indications point to completion of a large well. On the Amerada-King lease Union Oil Co. has three former Temblor producers scheduled for deepening to the Avenal zone immediately upon completion of Superior Oil Co. No. 5 Huffman. Kettleman North Dome Association, which is delayed by mechanical trouble on No. 4-18-J at 11,746 feet, is rigging up rotary equipment on No. 67-20-J in section 20-21-17 preparatory to deepening from 8,560 feet to the Avenal zone, expected to be encountered at approximately 10,500 feet. Standard Oil Co. has not begun preparations of any kind but will undoubtedly deepen several Temblor producers on adjoining acreage immediately after completion of No. 5 Huffman.

Kettleman North Dome Association proved the Avenal zone of Eocene age productive in the Kettleman North Dome field late in July, 1937, when its No. 4-18-J in section 18-21-17 was brought in flowing 1,212 bbls. of 46.7-gravity oil, cutting 6 per cent, and 19,500,000 feet of gas per day from 10,753 feet. This deep zone discovery well, on the extreme northwestern end of the Kettleman structure, was brought in flowing through a 50/64-inch bean under a tubing pressure of 2,400 pounds and a casing pressure of 1,800 pounds. Initial showings of oil and gas were logged at 10,685 feet and the company drilled to the completion depth, 10,753 feet, and after landing a 6⅝-inch water string at 10,715 feet finished the hole with 46 feet of 4¾-inch liner, including 33 feet of perforated landed at 10,733 feet, and 9,004 feet of 3-inch tubing. The well was killed a few days following completion and after milling up the aluminum liner the crew resumed drilling. No. 4-18-J, mentioned above, has reached 11,746 feet, but is hung up with 974 feet of drill pipe, drill collar and bit.

Possible New Field

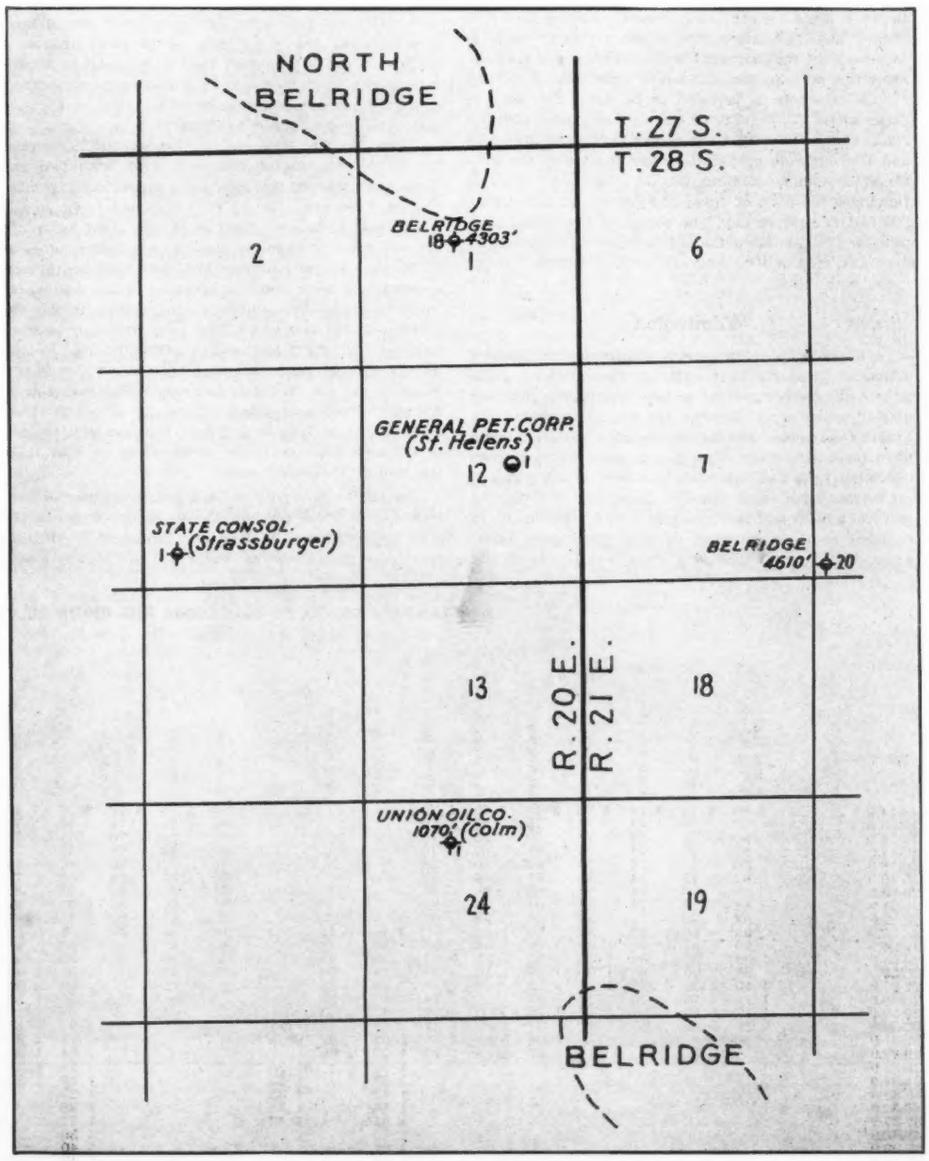
Shell Oil Co. appears to have found a new productive area on Olinda Land Co. property in section 16-3-9, a few miles east of the Brea Olinda and East Coyote fields, and north of development work in the Yorba Linda area where several independent operators have developed small production of 16.2-gravity oil in section 22-3-9. Shell's new discovery was made as the result of core-hole drilling, and present plans contemplate the drilling of several additional structure survey holes before proceeding with normal development. The well which focussed attention on the possible new field east of Brea Olinda was Shell Oil Co.'s core hole F, which was carried down to 2,395 feet and plugged back to 2,326 feet. The hole was finished with a 4½-inch liner carrying 133 feet of perforated landed at 2,310 feet and cemented through perforations at 2,170 feet. Core hole F was given a 30-minute test December 1 and the following morning was flowing 26½ bbls. per hour of 17.9-gravity oil through a 52/64-inch bean. It is producing gas estimated at 400,000 feet per day, and while the tubing presure is negligible the gauge on the casinghead is slightly in excess of 350 pounds. Shell Oil Co. has drilled seven core holes on the Olinda Land property. Two of these, core hole E and core hole F, resulted in production. The former was completed on the beam pumping approximately 50 bbls. a day of 17.9-gravity oil cutting 55 per cent. The productive limits of this new area are expected to be confined to an area not exceeding 500 acres in as much as deep wells have been drilled on four sides of core hole F.

New Allowable

The Central Committee of California Oil Producers at a meeting held November 30 adopted the recommendation of the U. S. Bureau of Mines for December but stipulated that the state's production of crude must not exceed the quota of 679,400 bbls. per day. In accordance with the procedure followed during the past several months Umpire Pemberton will reserve a part of the quota to take care of projected completions and allocate the remainder to the various fields throughout the state. Crude production has shown a consistent increase during the past several months and may exceed 700,000 bbls. per day during December due to substantial excesses in the Midway-Sunset, Ventura Avenue, El Segundo, Long Beach, Santa Fe Springs and Wilmington fields. In contrast with these substantial excesses the effective curtailment of production in the Rio Bravo, Greeley, Ten Section and Santa Maria Valley fields stands out in bold relief, and is especially conspicuous because the potential production of these areas together with North Belridge is several times larger than actual production.

Greeley

Standard Oil Co. has completed another large well in the Greeley field of Kern County, and thus has finished two excellent producers with 10 days. Standard's new producer is No. 11-9 Kern County Land in section 20-29-26, brought in flowing 3,421 bbls. of exceptionally clean 60.5-gravity oil and 50,700,000 feet of gas per day



General Petroleum Corp. is drilling an important wildcat on property leased from St. Helens Petroleum Co. between the North and South Belridge fields. Seismograph work indicated the existence of a possible structure at about 6,000 feet

from 7,797 feet. This well, completed flowing through a quarter-inch bean, has been shut in, and at present shows a tubing pressure of 1,100 pounds and a casing pressure of 1,550 pounds. Standard's No. 11-2 Kern County Land in section 20-29-26, which, although in close proximity to producing wells, failed to find the productive Stevens sand in the Greeley field, has been selected as a deep test and will be carried to the Rio Bravo sand found by Union Oil Co. in the Rio Bravo field at 11,302 feet. Drilling will be resumed in No. 11-2 Kern County Land at 8,339 feet, at which point it was suspended a few months ago.

Union Oil Co.'s discovery well in the Rio Bravo field is holding up with clock-like regularity although severely beaned back. Current production is 2,575 bbls. per day and the well shows a gas-oil ratio of 1,680 feet of gas per barrel of oil. Union has started work on its second well in this field and Superior Oil Co. has started drilling on a test east of the discovery well. General Petroleum Corp., which has several hundred acres under lease near the well, has not undertaken development work and may hold back for several weeks as it has a number of drilling commitments in the Wilmington field of Los Angeles Basin. Shell Oil Co. No. 8-A Kern County Land in section 28-30-26, the most easterly well in the Ten Section field, has taken on a rather dubious outlook as far as the Stevens sand is concerned, as it is already below the depth at which this horizon should be reached. This well has been carried to 8,857 feet and plans call for a test of minor showings logged higher in the hole. Superior Oil Co. No. 10 Kern County Land in section 3-30-26, 3 miles southeast of the Greeley field, has failed to pick up the productive horizon found in No. 9 Kern County Land, notwithstanding that it is deeper than the latter. No. 10 Kern County Land is southwest of the discovery well and may still find the Stevens sand with the addition of some more hole. Top of this structure is believed to be north and east of Superior Oil Co. No. 9 Kern County Land. In the Strand field, where Ohio Oil Co. recently completed an excellent flowing well, preparations are under way for additional development. Ohio Oil Co.'s discovery well is flowing 2,265 bbls. of clean 36.9-gravity oil and 1,700,000 feet of gas per day. The company has staked location for No. 4-E Kern County Land and this potential producer, east of the discovery well, is expected to get under way shortly.

Wilmington

After being held up several months by the dilatory action of the Long Beach Harbor Commission, operators in the harbor section of the Wilmington field are getting under way. Superior Oil Co. has spudded No. 1,960-1 Community and General Petroleum Corp. should have three new wells making hole soon. No. 6 Harbor Community, east of Superior's new well, is being rigged up for an early spud. General Petroleum No. 1 Blinn and No. 2 S. P. will be rigged up within a few days. In addition to these outposts General Petroleum Corp., discoverer of the Wilmington field, and Union Pacific Railroad Co., largest holder of undeveloped acreage, are completing plans to pursue an aggressive drilling program east of the Ford Motor Co. assembly plant, on which General Petroleum has completed several large flowing wels. The Ford lease is the most productive section of the Wilmington field and operators believe still larger production will be found east and south of the Ford plant across the boundary line in the new area now being opened to the drill.

Union Pacific Railroad Co. headed the completion list in the Wilmington field this week with two new wells that showed an aggregate initial daily production of 7,889 bbls. No. 47 Offset proved to be one of the largest producers finished in this field up to the present when it came in flowing 6,951 bbls. of clean 27.4-gravity oil per day from 4,065 feet. Flowing through a 43/64-inch bean under a pressure of 325 pounds on the tubing and 440 pounds on the casing, it was finished with 541 feet of 6⅝-inch liner including perforations at 3,357-3,835 feet and at 3,861-4,065 feet and cemented through perforations at 3,550 feet. Union Pacific Railroad Co. No. 56 Offset has been completed flowing 938 bbls. of relatively clean 18.7-gravity oil per day from 3,572 feet after the hole had been finished with 468 feet of 6⅝-inch liner carrying perforations at 3,167-3,320 feet and at 3,340-3,572 feet.

Pacific Western Oil Co. No. 1 Ronan appears to have proved that small production can be developed in the town lot area from the deep zone pioneered by Royalty Service Corp. in the subdivided area. This zone has been found highly productive on General Petroleum Corp.'s Ford lease, but the two deep tests in the town lot area have proved disappointing due to small production and high water cut. No. 1 Ronan was completed early in the week flowing 210 bbls. of 25.9-gravity oil cutting 5 per cent, but after being on production a few days the cut has increased to 11 per cent. This deep well, producing from a zone between 5,400 feet and 5,704 feet, was brought in flowing through a 25/64-inch bean and showed a tubing pressure of 125 pounds and a casing pressure of 400 pounds. Production possibilities of this deep zone is expected to be revealed within a few days, as Selegna Drilling & Production Co. has No. 10 Wilmington bottomed at 5,810 feet and is preparing to land a string of casing. The oil sand logged looks good, but it remains to be seen whether the well shows large production or runs true to form and results in small production. Royalty Service Corp. No. 842-2 Gilmore, the first well in the town lot area that was carried down to the lower horizon, is producing 251 bbls. of 25.5-gravity oil cutting 19 per cent from 5,747 feet after the hole had been bottomed at 5,775 feet and plugged back because of bottom water.

Approximately 200 new wells are expected to be drilled in the Wilmington field during the next several months. Wilmington has been producing about 65,000 bbls. per day the past week, and since it has a potential of approximately 100,000 bbls. daily it might easily show a potential of 150,000 bbls. per day if new wells

(Continued on Page 93)

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	November 25 Total this week	November 25 Daily average	November 18 Total last week	November 18 Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Crude oil	.....	.....	.....	.....	129,788	.....
Diesel and gas oil	.....	.....	.....	.....	176,726	231,426
Gasoline	123,670	17,667	.....	.....	3,790,592	5,493,496
Kerosene	.....	.....	.....	.....	328,907	1,128,379
Foreign exports:						
Crude oil	393,976	56,282	476,277	68,040	14,520,954	8,448,233
Fuel oil	256,909	36,701	229,495	32,785	12,970,819	9,483,595
Diesel and gas oil	194,080	27,726	376,552	53,793	7,390,048	5,208,133
Gasoline	428,228	61,175	104,309	14,901	7,450,212	7,329,168
Kerosene	.....	.....	.....	.....	2,003,872	1,042,642
Lubricants	.....	.....	.....	.....	12,984	1,403,998
Other unfinished oil	.....	.....	.....	.....	974,785	.....
Coastwise-domestic:						214,212
Crude oil	179,411	25,630	129,456	18,494	5,281,294	6,766,211
Fuel oil	171,086	24,441	161,517	23,074	14,064,095	9,847,395
Diesel and gas oil	41,894	5,985	48,598	6,943	2,090,052	1,042,642
Gasoline	464,246	66,321	337,295	48,185	14,653,056	11,474,810
Kerosene	.....	.....	49,482	7,069	417,562	159,088

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	76,985	10,994	299,315	218,603
Gasoline	125,274	17,896	.....	.....	151,052	285,959
Kerosene	.....	.....	.....	.....	72,750	.....
Asphalt	.....	.....	.....	.....	413,885	327,418
Lubricants	3,026	432	.....	.....	28,548	47,560
Foreign exports:						
Crude oil	90,202	12,886	73,411	10,487	3,060,195	2,978,568
Fuel oil	.....	.....	53,106	7,587	1,871,261	2,354,929
Diesel and gas oil	58,679	8,383	75,874	10,839	2,802,383	1,849,928
Gasoline	38,025	5,429	86,962	12,423	5,036,332	3,618,595
Kerosene	29,041	4,149	34,282	4,897	915,194	607,543
Lubricants	52,495	7,499	.....	.....	526,989	362,367
Other unfinished oil	.....	.....	.....	.....	.....	90,923
Coastwise-domestic:						
Fuel oil	233,614	33,373	180,911	25,844	5,997,785	5,923,638
Diesel and gas oil	41,350	5,907	26,779	3,826	1,360,827	615,988
Gasoline	244,238	34,891	303,420	43,346	5,522,207	4,963,937
Kerosene	24,982	3,569	.....	.....	393,308	203,744

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$ .80	$ .79	$ .74	$ .78	$ .79	$ .80	$ .76	....	....	....	$ .80	$ .76	$ .76	$ .77	$ .78	....	....	$ .70	$ .70	$ .70	....	....	$ .70	
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$ .70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$ .70	.74	.74	.71	$ .70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$ .78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$ .84	$ .79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1 .02	.95	....	.89	.99	.86	.88	1 .01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1 .07	1 .09	1.16	1.06	.98	.86	....	1 .05	.98	....	.92	1 .03	.90	.91	1 .06	1 .02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1 .03	.88	....	....	1 .02	....	.96	1 .06	.95	.95	1 .10	1 .06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1 .07	.90	....	....	1 .06	....	.99	1 .10	.99	.99	1 .15	1 .10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1 .12	.93	....	....	1 .09	....	1 .03	1 .14	1 .03	1 .02	1 .20	1 .14	....	....	....	.99	....
30-30.9	1 .21	1 .19	.95	1 .22	1 .21	our	1 .21	1 .17	.95	F.O.B.	....	....	....	1 .07	1 .17	1 .08	1 .06	1 .25	1 .18	....	....	....	1 .01	....
31-31.9	....	....	....	....	1 .24	Pipe	1 .24	1 .22	.97	Ship	....	....	....	1 .11	1 .21	1 .12	1 .09	1 .29	....	....	....	....	....	....
32-32.9	....	....	....	....	1 .27	Line	1 .27	1 .27	1 .00	....	....	....	....	1 .14	1 .25	1 .16	1 .13	1 .34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1 .32	....	$1 .28	....	....	....	1 .18	1 .28	1 .20	1 .17	1 .38	....	....	....	$1 .19	....	....
34-34.9	....	....	....	....	....	....	....	1 .37	....	1 .32	....	....	....	1 .22	1 .32	1 .25	1 .20	....	....	....	....	1 .23	....	....
35-35.9	....	....	....	....	....	....	....	1 .42	....	1 .35	....	....	....	1 .25	....	1 .29	....	....	....	....	....	1 .27	....	....
36-36.9	....	....	....	....	....	....	....	1 .46	....	1 .39	....	....	....	1 .29	....	1 .33	....	....	....	....	....	1 .31	....	....
37-37.9	....	....	....	....	....	....	....	1 .51	....	1 .43	....	....	....	1 .32	....	1 .37	....	....	....	....	....	1 .35	....	....
38-38.9	....	....	....	....	....	....	....	1 .56	....	....	....	....	....	1 .36	....	1 .42	....	....	....	....	....	1 .39	....	....
39-39.9	....	....	....	....	....	....	....	1 .61	....	....	....	....	....	1 .40	....	....	....	....	....	....	....	1 .43	....	....
40-40.9	....	....	....	....	....	....	....	1 .66	....	....	....	....	....	1 .43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 29-29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

Central West

ILLINOIS FIELD DRY HOLES DO NOT FRIGHTEN WILDCATTERS

By STAFF CORRESPONDENT

MATTOON, Ill. Dec. 6.—Of the 25 completions in the Central Basin fields in the past week, 11 were producers with a combined initial production of 1,219 bbls. and 14 were wildcat dry holes. Sixteen other wells were in the pay in Marion, Clay and Richland counties some of them showing themselves to be larger producers than the oil wells on the week's completion list. The number and frequency of wildcat dry holes in recent weeks do not appear to frighten operators engaged in the Basin exploration campaign. Twenty nine new operations were announced during the week ranging all the way from locations to wells drilling, the number exceeding the completions by four.

The Week's Completions

In Clay County Pure Oil Co. No. 1 J. L. Moore, NE NE NE section 23-3n-8e, was dry and abandoned at 3,097 feet. It had Weiler sand at 2,641 feet, Ste. Genevieve limestone at 2,971 feet, and a tight sand at 2,966-73 feet.

Pure Oil Co. No. 1 Brissenden, NW SE NW section 27-3n-8e, found Ste. Genevieve limestone at 2,906 feet and the pay at 2,973-96 feet and pumped 75 bbls. per day.

Pure Oil Co. No. 6 Chaffin, NW NE SW section 27-3n-8e, had Weiler at 2,622-50 feet, pay at 3,010-20 feet, total depth 3,029 feet, and is a 50-bbl. pumper.

Pure Oil Co. No. 4 Bechtel, NW SE NW section 33-3n-8e found Weiler sand at 2,610-25 feet and pay at 2,937-61 feet, and topped Ste. Genevieve lime at 2,974 feet, the total depth. It was acidized with 1,000 and then with 3,000 gallons, and swabbed and flowed 265 bbls. in 24 hours.

Pure Oil Co. No. 3 Scrugham, NW SW NW section 9-2n-8e was dry and abandoned at 3,027 feet. Ste. Genevieve limestone was topped at 2,943 feet, Roseclaire at 2,965 feet, but the regional pay at 3,006-09 feet was tight.

Pure Oil Co. No. 2 F. Hubble, NW SE SE section 8-2n-8e topped Ste. Genevieve limestone at 2,961 feet and found pay at 3,005-33 feet, total depth 3,043 feet. It was acidized with 500 and then with 1,000 gallons and pumped 175 bbls. of net oil in 24 hours.

Pure Oil Co. No. 1 Leon Clark, NE NW SE section 8-2n-8e, had pay at 3,003-30 feet, total depth 3,037 feet. It was twice acidized with 500 gallon doses and flowed 195 bbls. of oil in 24 hours.

In Richland County, Pure Oil Co. abandoned the location for No. 2 Eagleton SE NE NE section 7-3n-9e.

Pure Oil Co. No. 1 John O. Coen, NE NE NE section 4-3n-9e, flowed 284 bbls. in 24 hours from pay at 2,974-83 feet, total depth 3,000 feet.

Pure Oil Co. No. 2 Frost, SW SW SW section 9-3n-9e, pumped 29 bbls. in 24 hours from pay at 2,958-75 feet.

Wiser Oil Co. No. 1 Travette-Mattis, CNL NE SE section 8-2n-10e, a wildcat, was dry and abandoned at 3,149 feet, at the top of the Ste. Genevieve limestone.

In Wayne County, Benedum-Trees, Inc. No. 1 Craig, SE SE SW section 28-2n-7e, was dry and abandoned at 3,280 feet. Base of the Pennsylvanian was at 2,110 feet, top of the Cypress sand at 2,805 feet; top of the Ste. Genevieve limestone at 3,090 feet.

In Shelby County, Richardson and others abandoned the location for No. 1 Richardson, SW SW SW section 26-12n-4e. English and others No. 1 McClory, SE cor. NE section 14-10-6e, was dry and abandoned at 2,384 feet. Ste. Genevieve limestone was topped at 2,267 feet.

In Effingham County, Carter Oil No. 1 Oruenner, C W half SW NE section 11-8n-7e, was dry and abandoned at 2,664 feet. Tops included Glen Dean at 2,128 feet, Cypress at 2,300 feet, Benoist at 2,405 feet and Ste. Genevieve at 2,515 feet. All were barren.

In Bond County, J. M. Huber Corp. No. 1 Kunz, SE NW NW section 11-6n-5w, was abandoned at 3,104 feet. Trenton limestone was topped at 2,568 feet and a formation at 3,020-29 feet, connitaing signs of asphalt filled the hole with water.

In Lawrence County, Strauss and others No. 1 Robeson, SW SE NE section 16-3n-10w, was abandoned at 3,073 feet, top of the Devonian limestone. The drill pipe was twisted off. Top of Ste. Genevieve limestone was found at 1,710 feet.

In Clinton County, Cotton and others No. 1 Pearl Lester, NE NW SW section 26-3n-1w was dry and abandoned at 1,724 feet. Ste. Genevieve lime was found at 1,653 feet.

In Washington County, Betterman and others abandoned the location for No. 1 Jessie, C SE NE section 16-3n-2w.

In White County, Davis & Harrell No. 1 Poorman, NE NW NW section 5-4s-8e was dry and abandoned at 3,405 feet. It topped Ste. Genevieve limestone at 3,305 feet, and the McClosky formation at 3,381 feet.

In Marion County, Adams Oil & Gas Co. No. 10 A. Wasem, C S half NW NW section 28-4n-1e, is a 65 bbl. pumper from Benoist sand at 1,412-18 feet, which had been given a 40 quart shot. Kirk Holland No. 1 Gordon, NW cor. SW SE SW section 28-4n-1e. was shot with 50 quarts at 1,453-58 feet, total depth 1,470 feet, but it showed only a little oil and a lot of water and was abandoned. Alexander and others No. 3 Allison NW cor. SW SW section 33-4n-1e, was dry and abandoned at 1,482 feet. J. I. Staley No. 1 Ellis, SW cor. NE SW section 28-4n-1e, is a 22 bbl. pumper from sand at 1,435-48 feet.

In Clinton County, Adams Oil & Gas Co. No. 1 Schmidt SE SE NE section 2-1n-1w is a 90 bbl. well from Benoist sand at 1,347-77 feet, total depth 1,384 feet. The oil has a gravity of 39.7 degrees at 55 degrees F.

Near Completions

Bonnie Oil Co. No. 1 Daniels, NE NW SE section 18-2n-4e, Marion County, was shut down for orders at 2,801 feet. It had topped Benoist sand at 2,530 feet, and Ste. Genevieve lime at 2,710 feet and penetrated McClosky sand at 2,792-96 feet. It had a showing of oil at 2,733-35 feet in oolitic lime.

Vermilion Oil Co. No. 1 Duff, NE SE NE section 19-3n-9e, in the Clay City townsite, Clay County, swabbed down in 12 hours and then shut down 12 hours and the hole filled 2,700 feet with fluid. The swab brought up oil and water. Standard tools were being rigged up. This well created quite a stir a couple of weeks ago when the drill stem test developed 2,700 feet of oil. Subsequent tests quieted the excitement.

Pure Oil Co. No. 1 S. S. Gill, NE NE SW section 27-2n-8e, Wayne County had pay at 3,040-59 feet, total depth 3,084 feet, and acidized with 1,000 gallons. The well swabbed and flowed 325 bbls. of oil net in 24 hours. It was being reacidized. In the same county Benedum-Trees Inc. No. 1 Rosa Yates, SW NW SE section 33-2n-7e had Ste. Genevieve lime at 3,112 feet, and made a drill stem test at 3,082-3,147 feet, recovering 80 feet of mud. The crew cored to 3,161 feet with no oil showing and the operation was shut down for orders.

Pure Oil Co. No. 2 L. Clarke, SE NW SE section 8-2n-8e, Clay County topped Ste. Genevieve lime at 2,962 feet, and penetrated the regional pay at 3,002-07 feet, total depth 3,040 feet. Seven inch casing was cemented at 2,989 feet and the crew was waiting for cement to set. In the same county Pure Oil Co. No. 1 McKinney, NW SW SW section 9-2n-8e, set 7-inch casing at 2,984 feet and ran 2-inch tubing to 3,015 feet. It has pay at 3,023-26 feet, total depth 3,040 feet. The well made 15 bbls. of oil in 11 hours on a pumping test. Pure Oil Co. No. 1 B. W. Moseley A, SE SE NW section 28-3n-8e, had Ste. Genevieve lime at 2,908 feet and pay in streaks at 2,964-90 feet, total depth 3,012 feet. It was acidized with 500 and then 1,000 gallons and swabbed 156 bbls.

Check Meeting of Illinois Scouts at Mattoon

Front row: Jim Burhams, Carter Oil Co.; A. E. Black, Phillips Petroleum Co.; T. P. Carr, Sinclair Prairie Oil Co.; Earl Wooldridge, Continental Oil Co.; Phillip P. Wolcott, Adams Oil & Gas Co.; Bill Brewster, Magnolia Petroleum Co.; Ed C. Malroney, Shell Petroleum Corp.; Noel Engel, Superior Oil Co.; C. C. White, Ohio Oil Co.; W. H. Cordell, Tide Water Oil Co.

Back row: W. D. Sinclair, Amerada Petroleum Corp.; W. B. De Mars, Texas Co.; A. H. Llwyd, Sinclair Prairie Oil Co.; H. W. White, Pure Oil Co.; P. E. Romine (Czar), Gulf Oil Corp.; S. G. Elder, Sun Oil Co.; J. L. Fosness, Cities Service Oil Co.; Fred Jensen, W. C. McBride, Inc.; F. D. Williams, Texas Co.; Jess Bullard, Shell Petroleum Corp.; Bill Johnson, Gulf Oil Corp.; Ellis Stallard, Carter Oil Co.; Jim Burke, Gulf Oil Corp.

of net oil in 37 hours. Pure Oil Co. No. 1 Scrugham, SW NE NW section 27-3n-8e, topped Ste. Genevieve lime at 2,921 feet, and had pay at 2,973-84 feet, total depth 3,014 feet, and was circulating.

Louis Godlin and others No. 1 Garrett, SE SE SE section 8-3n-9e Richland County, had pay at 2,958-65 feet. The hole filled 450 feet with fluid. It was acidized with 3,000 gallons with a hole full of oil as a load, but no test had yet been made. Pure Oil Co. No. 1 Ida Shaffer, SE SE SE section 8-2n-9e, found pay at 2,956-57 feet, total depth 3,000 feet. The hole filled 1,800 feet with fluid. Pure Oil Co. No. 1 Fleming A, NE SW SE SE section 8-3n-9e, flowed 127 bbls. of oil in 20 hours from pay at 2,958-60 feet, total depth 3,000 feet. The crew was still testing. P. L. Hoffman No. 1 Hanna, CNL NW SE section 17-3n-9e flowed 109 bbls. of oil in 9 hours from pay at 2,958-65 feet, total depth 2,972 feet. Nine-inch casing was set at 2,940 feet. Put on the swab the well produced 607 bbls. of oil in 72 hours, through casing. Preparations were being made to run tubing. Godlin & Hoffman No. 1 Shannon, CEL SW NE section 17-3n-9e had Cypress sand at 2,596 feet. Seven-inch casing was set at 2,945 feet total depth from which point the hole had filled 1,100 feet with fluid. Max Pray's No. 1 Bahr, NW SE NW section 16-3n-9e found pay at 2,972-74 feet, total depth 2,976 feet. It swabbed 32 bbls. of oil through casing, and was then given a 40-quart shot and the crew was cleaning out. Mammoth Producing & Refining Co. No. 5 Heitz, SW NW NW section 34-4n-9e was shut down at 3,034 feet. Cypress sand was topped at 2,641 feet. Mammoth Producing & Refining Co. No. 1 Brace, SW SE NW section 28-3n-9e, an old well deepened to 3,146 feet, was shut down for tankage, as the well flowed oil for 20 minutes. Seven-inch casing was run to 3,124 feet.

First Reports of New Work

In Richland County, Pure Oil Co. No. 2 Correll, SW SE SE section 33-4n-9e, was drilling at 1,479 feet; Pure No. 2 C. L. Wilson, C E half NE NE section 8-3n-9e, (corrected location), total depth 1,960 feet, with a crooked hole, plugged back to 1,600 feet and now re-drilling; Pure No. 8 Arbuthnot, C E half SW NE section 8-3n-9e, location; Pure No. 3 J. Q. Coen, C W half NW NW section 9-3n-9e, derrick; Pure No. 6 Palmer-Taylor, C E half SE SE section 5-3n-9e, 10-inch casing at 211 feet, drilling at 720 feet; Pure No. 2 Anna Snyder, C W half SW NW section 3-3n-9e, drilling at 215 feet; Kapschuell and others No. 1 Miller, NE cor. SW SE NE section 17-3n-9e, derrick; Pure Oil Co. No. 4 J. O. Coen, NW NE NE section 4-3n-9e, cellar and pits; Johnson & Anderson No. 1 Hanna Heirs, SW cor. NW NE NE section 17-3n-9e, derrick; C. P. Miller No. 1 J. A. Ake, SE cor. NW NE section 17-3n-9e derrick; Kapschuell and others No. 1 Porter, C W half NW NW section 16-3n-9e spudded and shut down.

In Clay County, Graham & Duncan will deepen No. 1 Land Bank NE SE NE section 8-2n-8e, and have rotary rigged up.

In Wayne County, Pure Oil Co. No. 1 Ella Gill, NE SE SW section 27-2n-8e, has derrick up; Pure No. 2 Gill, C E half SW NE section 27-2n-8e, spudded; Duncan Bros. No. 2 Riggs, CEL NW SE section 27-2n-8e, (corrected), drilling at 2,150 feet; Godlin & Hoffman No. 2 Riggs, NW SE SE section 27-2n-8e, derrick.

In Shelby County, Breazeale and others spudded No. 1 Richardson C NW NW section 35-12-4e.

In Coles County, W. E. Hughes set 12½-inch casing at 60 feet, and was drilling plug in No. 1 Swenge, C SW NE section 27-13n-9e.

In Fayette County, Wilson & Stokes made a location for No. 1 fee, NW SW NE section 14-8n-3e. Hausman and others were drilling at 1,335 feet in No. 1 Northwestern Life Insurance Co., SE cor. NE SW section 22-6n-1e, (corrected location).

In Clinton County, Bartelso Oil & Gas Co. made a location for No. 4 Schlorman, NW SE SE section 5-1n-3w in the Bartelso pool. Shell Petroleum Corp. was moving in rotary to start a wildcat, No. 1 Crilig, SW SE NE section 2-1n-1w.

In Wabash County, Deck & Hayes were rigging up rotary for No. 1 Provident Mutual Insurance Co. C SE NW section 25-1s-13w (measuring from Indiana principal meridian).

In Jefferson County, Sturbois & Tomberlin have derrick up for T. B. Moore, NW NW SW section 6-2s-2e.

In Saline County C. F. Bolton and others No. 1 Beagle, NW cor. NE section 13-9s-7e, was spudded.

In Marion County, Adams Oil & Gas Co. No. 11 Wasem A, NW SE NW section 28-4n-1e, was drilling at 930 feet. Helmerich & Payne No. 1 Stephens, SW SW SW section 35-3n-4e was spudded. W. C. McBride, Inc., was moving in to start No. 1 Clow, SW SW SE section 29-2n-1e.

OHIO FIELDS

FINDLAY, Ohio, Dec. 6.—An interesting but unsuccessful deep test to find production in the horizons below the Trenton has just been completed in northern Ohio, 5 miles southwest of Norwalk in Peru Township, Huron County, Lot 13, section 1, by White and others on the Peter Arting tract. The test was abandoned in the pre-Cambrian rocks at a total depth of 4,270 feet. Elevation 749 feet; top of Trenton 2,505 feet; show of oil 2,515-45 feet; show of gas 2,560-70 feet; show of black oil at 3,135 feet; salt water at 3,180-3,205 feet; sand carrying salt water at 3,400-35 feet; total depth 4,270 feet.

In Athens County, Lodi Township, C. A. Cody No. 1 John L. Jeffers, fraction 17, made 140,000 feet of gas from shale at 590 feet, total depth 600 feet.

In Guernsey County, Cambridge Township, Harry Warne No. 1 L. H. Patterson, dry and abandoned at 1,128 feet.

In Knox County, Butler Township, Millwood Sand Co. No. 4 Ray Lepley, SE section 4, dry in the Berea, total depth was 660 feet. In Union Township, Clairmont Oil Co. No. 1 White & Didinger, SW section 4, in corporation of Danville, made 1,180,000 feet of gas from Clinton sand 2,764-89 feet.

In Licking County, Hanover Township, North Fork Oil Co. No. 12 J. C. Williams, Lot 3, second quarter, made 5 bbls. of oil from Berea at 693-702 feet.

In Monroe County, Wayne Township, Gold Crown Oil & Gas Co. No. 1 Deborah Lucas, SE section 19, made 134,000 feet of gas and 1 bbl. of oil, from Keener sand at 1,355-65 feet.

In Perry County, Monroe Township, Keller and others No. 1 Sunday Creek Coal Co., SE section 21, produced 473,000 feet of gas from Clinton sand at 3,622-39 feet, total depth 3,666 feet. In Monroe Township, Weaver and Denman No. 1 C. L. Weaver, NW section 11, is good for 400,000 feet of gas from Berea at 1,042-52 feet, total depth 1,054 feet.

In Putnam County, Blanchard Township, Morton Stewart Petroleum Co. No. 1 W. F. Westrick, NW section 27, is a 20-bbl. pumper from the Trenton sand at 1,314-59 feet. In Blanchard Township, Morton Stewart Petroleum Co. No. 5 W. D. Williams, section 5, made 100 bbls. the first 24 hours from Trenton at 1,330-71 feet. Brown and others No. 2 W. B. Gearhart, section 22, produced 95 bbls. of oil the first 24 hours from Trenton at 1,336-81 feet. K. G. Rogers No. 2 O. Billingsley, section 21, made 90 bbls. of oil the first 24 hours from Trenton at 1,332-80 feet.

In Seneca County, Liberty Township, C. J. Miner and others No. 6 Russell Martin, SE section 25, is a small gas well in Trenton lime at 1,390-1,490 feet.

In Tuscarawas County, Franklin Township, East Ohio Gas Co. No. 2 William Aul, SW section 11, was dry in Clinton sand at 4,383-4,415 feet, total depth of 4,504 feet. In Wayne Township, Ohio Fuel Gas Co. No. 1 Trumer Johnson, fourth-quarter, Lot 24, was dry in the Clinton at 4,175-4,212 feet, total depth 4,286 feet.

In Washington County, Palmer Township, Russell and others No. 28 James J. Lorenz, Lot 1072, was dry in the First Cow Run at 684-90 feet, total depth 701 feet.

EASTERN KENTUCKY

ASHLAND, Ky., Dec. 6.—Three oil wells were completed in eastern Kentucky in the past week. Two of the wells are excellent producers while the other is a 10-bbl. daily producer.

C. E. Townsend, agent, completed No. 13 Andrew Combs, on Billies Fork in the Big Sinking district of Lee County. The well reached a total depth of 990 feet. It produced 200 bbls. the first 24 hours. McCoun & Wissing No. 17 Andrew Combs, at a total depth of 1,152 feet, also started at 200 bbls. per day.

In Powell County, Mrs. Agatha Wireman completed No. 22 J. M. Townsend, on South Fork. The well made an initial production of 10 bbls. of oil.

Drilling operations by counties follow:

Floyd County

The Kentucky-West Virginia Gas Co. was drilling at 2,550 feet, in shale, in No. 557 Ingram Stepp, on Johns Creek in Floyd County, and is at 1,444 feet in No. 558 on John Layne No. 3 lease at the Mouth Camp Branch of Levisa Fork.

The Inland Gas Corp. has completed rig for No. 2 J. C. Hopkins, near Ivel. The Kentucky-West Virginia Gas Co. is moving to location for No. 564, Jennie Caldwell land, on Levisa Fork. The same firm was drilling at 1,779 feet in Weir sand in No. 5,229 on the John W. Woods land on Porter Branch, and is setting machine for No. 566, Samuel Dillion land, on Ivy Creek of Levisa Fork.

Martin County

Kentucky-West Virginia Gas Co. was drilling at 160 feet in No. 560 on the Melissa Ward land on Rockhouse Fork of Rockcastle in Martin County. The same firm has reached the 1,375-foot level in No. 5,226 (in sand) on the C. W. Preece land on Coldwater Fork and is drilling in sand at 928 feet in No. 5,234 on the same land.

Knott County

The Inland Gas Corp. has reached the 1,885-foot mark, in the second salt sand, in No. 1 Whittaker & Waddell land on right fork of Troublesome Creek, and is down 2,350 feet, in Injun sand, in No. 1 Mayo Craft, in the same vicinity.

Lee County

Petroleum Exploration is rigging up No. 16 Pripe Heirs, Ida May district, Lee County. Thomas Wilmer was drilling at 380 feet in No. 6 C. J. Tipton on Billies Fork in the Big Sinking district. C. E. Townsend, agent, has mechanical trouble at No. 14 Andrew Combs on Billies Fork.

Magoffin County

The Bed Rock Petroleum Co. is down 1,150 feet in No. 13 J. J. Prater, on Prater Fork of Mash Fork in the Burton-Oil Springs district of Magoffin County.

Powell County

Coleman Hall is down 200 feet in No. 4 on George A. Rogers land at Pilot in the South Fork district, Powell County.

WESTERN KENTUCKY

OWENSBORO, Ky., Dec. 6.—South Penn Oil Co. completed a 328-bbl. initial producer in the Island district of McLean County in the past week in review. It was the best of 10 oil wells completed during the week. Six good gas wells and only two dry holes were included in the record of work finished.

Following is a summary of the completions and new work:

Breckenridge County

VanZant district: Kentucky Natural Gas Co. No. 2 Crissie Wroe, 319,000 feet gas, Jackson sand 450-61 feet, total depth 463 feet.

Daviess County

Haynes district: Rex-Pyramid Oil Co. No. 4 Rollie Cooper, 700,000 feet gas, Jackson sand 608-18½ feet.

Red Hill district: Gibson & Anknay No. 4 A. E. Bryant, estimated 25 bbls., shot 51 feet of Jackson sand and 29 feet of Barlow sand, total depth 1,086 feet. Shot casing out of the hole.

St. Joseph district: J. P. Warren No. 1 Jennie Waltrip, spudding in.

Grayson County

Falls of Rough district: A. V. Smith and others No. 5 Green Brothers, 1,108,000 feet of gas, 126 pounds rock pressure, Bethel sand 357-71 feet, total depth 386 feet. No. 6 is spudding in.

Hancock County

Adair district: DeHart & Lykins No. 1 C. F. Nugent, drilling at 200 feet.

Floral district: F. Damron and others No. 5 J. T. Brown, spudding in.

Pellville district: F. Damron and others No. 5 Alice Bates, 65,000 feet of gas, 155 pounds rock pressure, Jackson sand 481-514 feet. C. D. Walker and others No. 4 Elmer Boling, spudding in.

Easton district: J. C. Ellis No. 10 H. D. Fuqua, 15 bbls., Jett sand, 420-49 feet, shot 90 quarts; No. 22 Link Richards, 50 bbls., Jett sand 233-53 feet, shot 90 quarts.

Patesville district: Ray Cooper No. 1 Donnie Boling. 5 bbls., Jett sand. Ray Cooper and others No. 1 Ebbie Boling, spudding in.

Henderson County

Niagara district: Mecca Oil Co. No. 22 C. M. Gish, 50 bbls., Niagara sand. Whittmer Oil Co. No. 3 J. H. Knight, drilling at 600 feet.

(Continued on Page 95)

Oklahoma Operations

By
DAL DALRYMPLE

NEW TILLMAN WELL FLOWS; ALLEN'S HUNTON PRODUCER

The new Graham area of southwestern Tillman County received a boost at the week-end when the second producer in the pool, Indian Territory Illuminating Oil Co. and others No. 1 Dickey, NE SE NW section 1-3s-19w, flowed 314 bbls. of oil naturally in 15 hours. Before it started flowing production had been obtained only by swabbing, averaging 500 bbls. daily. Canyon lime pay was found at 3,060-70 feet, total depth. The 7-inch casing was set at 3,058 feet.

Hunton lime production on the west side of the Allen pool in southeastern Seminole County was uncovered at Magnolia Petroleum Co. No. 2 Reed A, SE NW NE section 26-5n-7, which produced 445 bbls. of oil in two hours through half-inch choke and then flowed 360 bbls. in the third hour through open casing. Bottomed at 4,179 feet in Wilcox sand, it was plugged back to 4,070 feet and casing was perforated in the Hunton zone. On initial test after acidizing, it flowed 656 bbls. of oil in five and one-half hours. The well was shut in for tankage and operators were starting work at a south offset, the No. 3 Reed A, NE SW NE section 26-5-7.

The Fitts field of Pontotoc County, which has been quiet for several weeks, received a boost the past week when Magnolia Petroleum Co. No. 4 Statler, NE SE SW section 28-2n-7, flowed 705 bbls. of oil in five hours through casing from Wilcox sand at 4,365-70 feet. This is the first sizable Wilcox sand production to be uncovered in the field in several weeks. It failed to find production in Hunton lime.

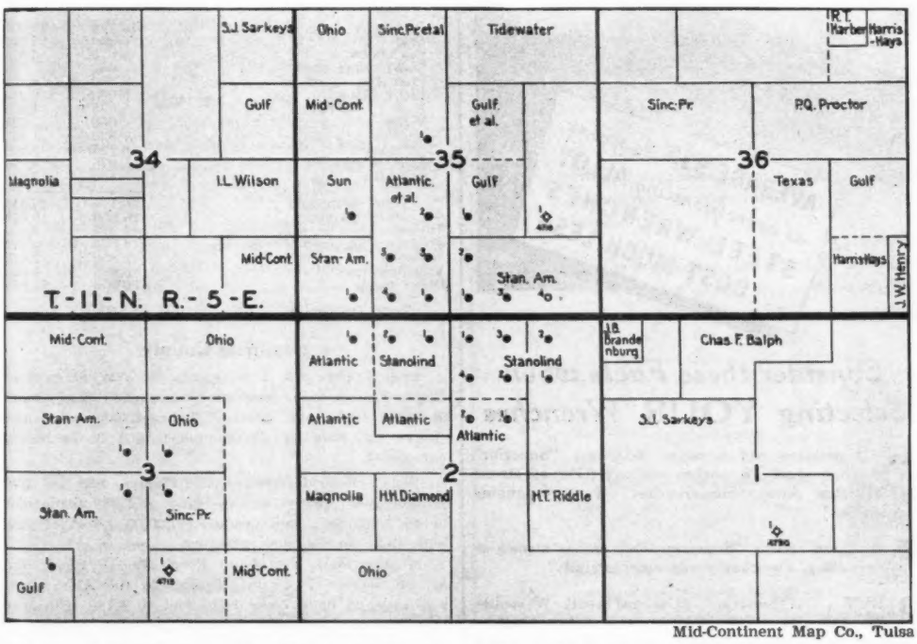
Texas Co. No. 1 Roper, C W half SW SE section 22-15-1e, wildcat in southeastern Logan County, was being deepened to second Wilcox sand after finding salt water in the first sand at 5,440-58 feet.

Deepen Fox Well

Gulf Oil Corp.'s deep test in the Fox area of Carter County, the No. 1 Johnson, C SW NW section 27-2s-3w, failed to respond after acid treatment and other efforts to make it produce, and was shut down at the week-end. It is northwest of the Carter Oil Co.'s deep discovery well in the Fox area and east of the Carter and associates' deep discovery in the Milroy pool of southeastern Stephens County, and it was hoped No. 1 Johnson would prove a connecting link between the two sectors. The Gulf's test was bottomed at 7,909 feet, and operators had started deepening Monday.

The second deep test being drilled by the Gulf company in the Fox area at No. 1 Smith, C SW SW section 26-2s-3w, east of the discovery producer, was running casing at 7,673 feet. It had shown both oil and gas in cores of Oolitic lime.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 2 McGill, NE SW SW section 35-11-5, North Earlsboro pool, Seminole County, swabbed 289 bbls. of oil in 6 hours and 15 minutes from Wilcox sand at 4,636 feet, total depth, and was to be put on the pump. It is north of the No. 1 McGill, a completed well shown on the accompanying map. Same operators' No. 4 Klabzuba, SW SE SE section 35-11-5, east side of the pool, was drilling below 3,540 feet. Atlantic Refining Co. No. 2 South Riddle, NW SW NE section 2-10-5, was waiting at 203 feet after setting surface pipe.



Mid-Continent Map Co., Tulsa

The North Earlsboro pool of Seminole County, in Townships 10 and 11-5e, is one of the more active areas in Seminole County

A wildcat being drilled in southeastern Atoka County is being watched with considerable interest. It is Gilmort Oil Co. and others No. 1 Lee, NE NE SW section 2-4s-10, which was drilling below 1,789 feet. It was carrying 900 feet of salt water with sulfurous odor found in lime at 1,680 feet. From 1,742-68 feet it found sand with a showing of asphaltic residue. Eight-inch casing was to be run at 1,789 feet. It topped Woodford formation at 680 feet, Hunton 985 feet, Sylvan 1,044 feet, Viola 1,208 feet, Bromide Dolomite 1,608 feet.

Two Indian lease sales are scheduled for December 16. One is to be at the Five Civilized Tribes agency in Muskogee, where 125 tracts aggregating about 8,230 acres in some 20 counties will be offered. The other sale is to be at the Kiowa Indian agency in Anadarko, where 150 tracts in Caddo, Kiowa and Comanche counties will be offered.

Wildcat Activity

No wildcats were completed in Oklahoma the past week, but Hightower and others No. 1 Walton, SE SE NW section 27-6-3e, Pottawatomie County, was reported as an abandoned rig.

A quartet of new wildcat tests were reported. Jack Lynch and others No. 1-A Parker, SW SW SE section 17-4-8, outpost in the Steedman district of Pontotoc County, had spudded. This will be a Wilcox sand test if upper horizons are not productive.

Kenneth Ellison and others No. 1 Metropolitan Life, C NE NE section 14-7-9, wildcat east of Holdenville, Hughes County, had spudded.

Clarke C. Nye No. 1 Minnie Willin, SE SE SW section 24-27-4e, wildcat west of the Burbank field but in eastern Kay County, had dug cellar and pits.

Palmer & Palmer were building derrick and moving in tools at No. 1 Ryan, wildcat northwest of the Spring pool in Jefferson County. Surface geology for this test was checked by Frank Gouin of Duncan.

Pontotoc County

Two good producers were completed in the Jesse district, Pontotoc County. The largest was Mid-Continent Petroleum Corp. No. 9 Statler, SW NW SW section 2-1n-7. Top of Hunton lime was 3,772 feet, Sylvan shale 4,041 feet, total depth 4,045 feet. After acidizing with 6,000 gallons, it flowed 608 bbls. of oil in five hours and 10 minutes, with 4,200,000 feet of gas, earning potential rating of 2,328 bbls. of oil.

Carter Oil Co. and Gulf Petroleum Corp. No. 2 Wells, SW SW NW section 2-1n-7, found Hunton lime at 3,837 feet, Sylvan shale 4,113 feet, total depth 4,115 feet and flowed 180 bbls. of oil net in eight hours through tubing. It was acidized and flowed 461 bbls. of oil net in eight hours, making potential of 1,383 bbls.

In the Fitts district, H. L. Blackstock and others No. 7 Daniel, SE SE SW section 21-2n-7, topped Cromwell sand at 2,580 feet, was bottomed at 2,622 feet, was shot and pumped 152 bbls. of oil in 24 hours.

Samedan Oil Co. No. 1-B Bates, NW SE NE section 27-2n-7, flowed 149 bbls. of oil through tubing in 24 hours from Cromwell sand topped at 2,480 feet, total depth 2,625 feet.

Arrow Drilling Co. and others No. 1 Banks, SW SE SE section 16-2n-7, an old Fitts well, was deepened from 2,024 feet to Hunton chert at 4,101 feet, total depth 4,246 feet, and was recompleted, flowing 98 bbls. of oil and 40 per cent salt water in 24 hours.

Magnolia Petroleum Co. No. 1 Burris B, SW SE NE section 28-2n-7, an old well, was plugged back from 4,305 feet to 4,225 feet, acidized, flowed 125 bbls. of oil net in five hours and was recompleted.

Westheimer & Neustadt No. 1 Factor, NE SE SW section 25-5-7, had Gilcrease sand at 2,247 feet, total depth 2,276 feet, and flowed 65 bbls. of oil in 24 hours, with 4,000,000 feet of gas.

Harper & Turner No. 1 Malloy, SW NE SW section 30-2n-4, was abandoned when water intruded at 478 feet, total depth.

Dickson Oil Co. No. 3 Jackson, SE SW SW section 22-5-6, found Hunton lime at 2,720 feet, total depth 2,846 feet in shale, plugged back to 1,755 feet, shot, but was dry and abandoned.

New work in Pontotoc County: Magnolia Petroleum Co. No. 1 Nance-Campbell, SW NW SW section 21-2n-6, cellar and pits; same company's No. 6 Norris, NW SE NE section 21-2n-7, building rig; same company's No. 37 Metropolitan Life, NW NE NE section 27-2n-7, building rig; Harper-Turner No. 1 Williams-Moore, NW NW SW section 20-2n-4, set 8-inch at 236

feet, total depth 246 feet, waiting on cement; Westheimer & Neustadt No. 2 Factor, NW SE SW section 25-5-7, total depth 104 feet, running 12½-inch casing; Mexhoma No. 5 Butler, NW SW SW section 21-5-8, machine.

Logan County

A large producer was completed in the south end of the Lucien field, in Logan County, at Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 10 Pfeiffer, C N half S half SW section 33-20-2w. It had first Wilcox sand at 4,842-55 feet, second Wilcox sand 4,925 feet, total depth 5,068 feet. It flowed 1,664 bbls. of oil in 12 hours through casing, gaining 24-hour rating of 3,128 bbls. Gas volume averaged 7,167,000 feet.

Incorporated Petroleum Producers and others No. 3 Schlopp, NE SE SE section 32-20-2w, topped second Wilcox sand at 4,964 feet, was bottomed at 5,100 feet, was shot, flowed 120 bbls. of oil daily by heads and was pinched in to 75 bbls. daily to complete.

In the Langston area, Sinclair Prairie Oil Co. No. 1 Smith, NW SW SE section 12-17-1w, found Wilcox sand at 5,042 feet, total depth 5,100 feet and made potential of 606 bbls. of oil through tubing. Gas gauged 1,783,000 feet.

Lincoln County

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 3 Eakers, SW NE SW section 35-15-2e, North Wellston pool, Lincoln County, topped Dolomite at 5,087 feet, Wilcox sand 5,105 feet, total depth 5,128 feet. It flowed 172 bbls. of oil in six hours, through tubing, making potential of 432 bbls., with 2,500,000 feet of gas. Gravity of the oil was 41 degrees.

Pottawatomie County

Mudge Oil Co. No. 1 Herber, NW NW SW section 23-7-4e, St. Louis district, was dry and abandoned after plugging back from 4,100 feet, total depth, to 3,378 feet and shooting.

Indian States Oil Co. No. 1 Hickey, SE SE NE section 31-11-4e, Shawnee area, Pottawatomie County, had Earlsboro sand at 4,424 feet, total depth 4,497 feet, was shot, swabbed 40 bbls. of oil and 22 bbls. of water in 12 hours, swabbing down; later was shot again at 4,433-53 feet, and was completed, swabbing 11 bbls. of oil daily.

Cleveland County

Fain Drilling Co. No. 1 Gross, SW SW NW section 22-10-2w, Moore district, Cleveland County, topped Simpson series at 7,160 feet, had second Wilcox sand at 7,487 feet and was dry and abandoned at 7,529 feet, total depth.

Estimated Daily Production

Estimated daily production of Oklahoma for the week ending December 4 and for the preceding week was as follows:

	Barrels	
	Dec. 4	Nov. 27
Allen	5,625	5,600
Billings	7,475	7,400
Burbank	7,900	7,925
South Burbank	14,100	14,350
Balance Osage	19,500	19,500
Blackwell district	4,850	4,775
Bristow-Slick	7,250	7,275
Chandler	2,575	2,825
Crescent	10,700	9,825
Cromwell	3,225	3,250
Cushing-Shamrock	10,750	10,825
Duncan district	3,775	3,800
Edmond	12,500	11,800
Fish	5,050	5,025
Fitts	82,225	80,250
Jesse	3,700	3,650
Graham	4,300	4,325
Gray	1,225	1,250
Healdton	9,900	9,975
Hewitt	4,075	4,100
Holdenville	850	850
Keokuk	7,750	7,750
Konawa	1,450	1,525
Lucien	13,100	13,650
Moore	9,500	9,800
Oklahoma City	114,375	125,575
Olympic	8,925	9,050
Polo	700	825
Sasakwa and townsite	2,525	2,525
Sholem-Alechem	3,125	3,100
Seminole:		
Bowlegs	10,750	10,950
Carr City	4,950	5,025
Earlsboro	6,075	5,875
South Earlsboro	650	675
East Earlsboro	6,700	6,650
Little River	9,050	9,075
East Little River	1,025	1,075
Maud	600	625
Mission	1,825	1,925
Seminole	8,725	9,200
East Seminole	1,975	1,950
Searight	3,850	3,925
Total Seminole	56,175	56,950
St. Louis-Pearson	18,900	19,350
Tatums	5,975	5,950
Tonkawa-Garber-Thomas	4,575	4,550
Wewoka	2,650	2,675
Yale-Jennings	3,875	4,025
Other pools	80,950	81,950
Total Oklahoma	556,100	567,825

Seminole County

Paul Traugh No. 4 Scroggins, SE NW SE section 22-6-6, Traugh area, Seminole County, had Boggy sand at 2,325 feet, total depth 2,338 feet, was shot and flowed 120 bbls. of oil through tubing in 24 hours, completed.

W. C. McBride, Inc., No. 1 Gaines, SE NW SW section 20-6-7, had Gilcrease sand at 2,686 feet, total depth 2,775 feet, and produced 7,000,000 feet of gas, with 560 pounds rock pressure.

Mid-Continent Petroleum Corp. No. 16 Fleet, SW SE SE section 7-5-8, an old well in the Allen area, was plugged back from 4,220 feet to 4,180 feet, was shot and acidized and pumped 224 bbls. of oil net and 15 bbls. of water daily, recompleted.

Osage County

Peters Petroleum Corp. and Sinclair Prairie Oil Co. No. 20 Osage, C W half NW NE section 24-24-7, Osage County, was shot and completed as a 16-bbl. oil well at 746 feet, total depth.

E. O. Platter No. 8 Osage, SE SE NW section 13-21-8, had sand at 532-542 feet, total depth, was shot and completed as a 5-bbl. oil well.

E. A. Babcock No. 1 Osage, SW SE NE section 14-22-10, had Bartlesville sand at 1,730-40 feet, total depth, and was dry and abandoned.

Midco Oil Corp. No. 1-A Osage, NE SE SW section 35-27-7, was dry and abandoned after plugging back from 2,645 feet, total depth, to 2,585 feet, and shooting.

First reports of new activity in Osage County: E. O. Platter No. 9 Osage, NW SE NW section 13-21-8, drilling at 300 feet; Ida Rabinowitz No. 4 Osage, SE SW NW section 22-22-9, location; Midco Oil Corp. No. 27 Osage, SE NW SE section 18-22-10, drilling at 1,200 feet; Neely & Wolfe No. 2 Osage, SW NW SE section 18-22-12, location; Tide Water Associated Oil

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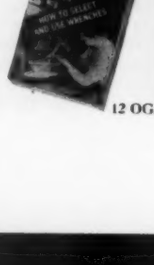

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Co. and others No. 3 Osage, SW NW SW section 21-24-9, location; Wolverine Oil Corp. No. 55 North Avant Unit, NE SW NW section 32-24-12, drilling at 1,012 feet; Indian Territory Illuminating Oil Co. No. 452 Osage, SE NE NW section 24-26-10, rigging up.

Okfuskee County

C. C. Bennett No. 5 Severs, C N half NW SE section 35-11-9, Okemah area, Okfuskee County, swabbed 15 bbls. of oil and 15 bbls. of water daily from sand topped at 1,451 feet, total depth 1,500 feet, after shooting, and was completed.

Grimes & Neil No. 2 Ryan, NW cor. section 36-11-9, new Okfuskee County test, was reaming at 464 feet.

Tulsa County

Trowbridge & Moore No. 1 fee, SW SW NW section 8-18-14, Broken Arrow area, Tulsa County, had Bartlesville sand at 918 feet, total depth 946 feet, produced 880,000 feet of gas and was completed.

Same operators' No. 1-A Price, NE SE SE section 7-18-14, was completed as a 400,000-foot gas well in Bartlesville sand at 934 feet, total depth 954 feet.

A third gas well was completed by the same operators at No. 1 Halbrough, NW SW SW section 8-18-14. It had Bartlesville sand at 934 feet, total depth 951 feet, and produced 396,000 feet of gas.

W. F. Epler No. 1-A McIntosh, SW NW NW section 8-18-14, was dry and abandoned at 968 feet, total depth.

Bauder and others No. 1 Johnson, C NW NE section 5-18-14, was dry and abandoned at 1,429 feet, total depth.

Lester Martin and associates No. 1 Goodman, C NE SW section 7-18-14, was dry and abandoned at 1,420 feet, total depth.

Two new Tulsa County tests were reported at Trowbridge & Moore No. 1 well, NE NW SW section 8-18-14, moving in machine, and W. F. Epler No. 1 Childers, C W half SW SE section 8-18-14, drilling at 500 feet.

Creek County

Sooner Oil & Gas Co. No. 1-A Davis, NW NE SE section 8-18-12, Creek County, topped Wilcox sand at 1,968 feet, total depth 1,979 feet, produced 1,000,000 feet of gas, with 605 pounds rock pressure, and was completed.

L. B. Jackson No. 1-A Jones, NW SE NW section 8-16-11, Pickett Prairie area, had Glenn sand at 1,854 feet, total depth 1,959 feet, and pumped 25 bbls. of oil and an estimated 100 bbls. of water daily, completed. Gravity of the oil was 38 degrees.

Okmulgee County

Link Oil Co. No. 3 Jefferson, NE NW SE section 35-15-13, Okmulgee County, had sand at 1,769 feet, total depth 1,789 feet, plugged back to 1,784 feet and produced 250,000 feet of gas, completed.

Latimer County

LeFlore Gas & Electric Co. No. 25 Hardway, C SW NW section 10-6-22, northeastern Latimer County, was dry and abandoned at 1,957 feet, total depth.

Hughes County

Myers Drilling Co. and associates No. 1 Meadors, SE SE NE section 33-9-9, new test in Hughes County, was a rig.

Noble County

Ray Stevens, Inc., was building rig at No. 1 Henn, SE SW NE section 32-20-2w, new test in the Noble County part of the Lucien field.

Carter County

Neff & Godfrey No. 1-A Mobley, SE SW SE section 13-4s-3w, Healdton field, Carter County, was completed as a 3-bbl. pumper at 1,238 feet, total depth, producing from Healdton sand series, Deese formation.

Magnolia Petroleum Co. No. 1 Pollack, SW SW SE section 14-1s-3w, an old well, was abandoned after deepening from 2,428 feet to 4,692 feet, in Deese formation.

K. O. T. Oil Co. No. 2 Ramsey, SE SE NW section 36-4s-2w, an old well, was deepened from 2,366 feet to 2,475 feet, pumped 43 bbls. of oil in 20 hours and was recompleted, pumping 26 bbls. of oil daily.

New work in Carter County: Maxine Oil Co. No. 5 Eaves, NE NW SE section 5-2s-2w, rigging up rotary tools; Roy I. Kyle No. 5 Dougherty, SW SE SW section 17-4s-2w, derrick; K. O. T. Oil Co. No. 1 Ramsey, SW SW NE section 36-4s-2w, an old well, rigging up to deepen.

Grady County

T. H. McCasland No. 4-A Horton, NE NW NW section 8-3n-5w, Knox field, Grady County, had sand at 1,778 feet, total depth 1,868 feet, and produced 1,500,000 feet of gas, with 350 pounds rock pressure. Production was from Pontotoc formation, Knox sand series.

Jefferson County

Bridwell Oil Co. No. 5 Seay, NE NE NW section 10-7s-5w, Oscar-Seay area, Jefferson County, had Seay sand at 1,088 feet, total depth 1,101 feet, and pumped 173 bbls. of oil in 24 hours, completed.

New activity in Jefferson County: Farlyn Oil Co. No. 62 Seay, NE NE SW section 3-7s-5w, building derrick; Bridwell Oil Co. No. 10 Seay, NE NW NW SE section 10-7s-5w, was drilling at 1,000 feet; same company's No. 11, No. 12 and No. 13 Seay, all in section 10-7s-5w, were locations; O. E. Teagarden No. 1 Penniston, located in the Red River bed, 150 feet east of the southwest corner of section 16-7s-5w, was rigging up tools.

Stephens County

Gulf Oil Corp. No. 14 Sims, SW SE NW section 13-2s-4w, Milroy area, Stephens County, pumped 6 bbls. of 24-gravity oil daily and was completed at 442 feet, total depth.

Magnolia Petroleum Co. No. 4 Blalock, SW NW NW section 14-2s-5w, had sand at 869 feet, total depth 937 feet, pumped 3 bbls. of 27-gravity oil daily and was completed.

George L. Pace and others No. 3-C Gilworth, SW SW NW section 2-2s-8w, was drilling at 40 feet.

Beckham County

Consolidated Gas Co. No. 2 Kinsley, C NW SW section 10-9-25w, Erick area, Beckham County, was completed in Dolomite at 3,260-3,585 feet, total depth, producing 27,000,000 feet of gas.

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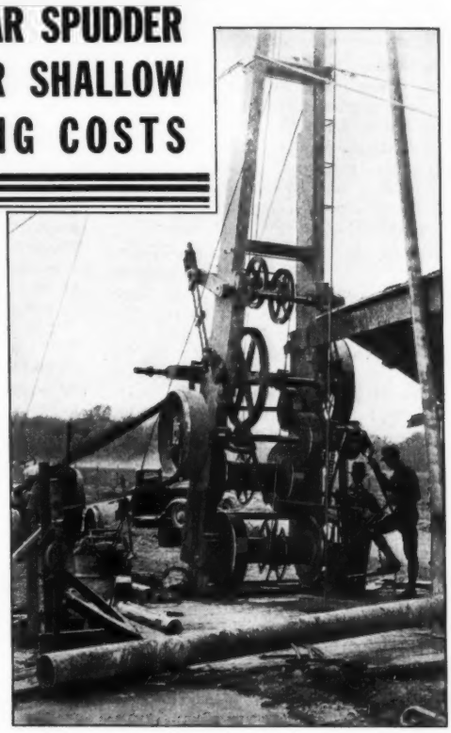

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Michigan Field Report

NO DISCRIMINATION FOUND IN MICHIGAN CRUDE PRICES

By
O. C. PRESSPRICH

SAGINAW, Mich., Dec. 6.—Buckeye Township cannot lay claim to all the oil producing strata in Gladwin County, as is evidenced by new discoveries in Bentley and Secord townships—both in Gladwin County—but any new Michigan fields of the future will have much to do to rival Buckeye's prolific production, which has gone a long way toward establishing Michigan as the leading present day oil producing state east of the Mississippi.

Michigan ranked approximately 800 bbls. daily ahead of Pennsylvania in the latest report of the U. S. Bureau of Mines. Michigan operators cite the Buckeye field, less than 1½ years old, as the chief cause of Michigan's production supremacy over the famous Pennsylvania fields, which are much older but maintaining steady production.

Michigan producers, however, would now like to see their crude prices placed on a basis comparable with other proved petroleum fields to discount the claim that pipe line companies and refineries are discriminating against independent operators by controlling crude prices. Only this week the state conservation department, after an investigation, ruled out the claim of independent operators that they were being discriminated against on crude prices.

However, despite charges of discrimination which have resulted in a group of independents organizing their own pipe line company and refinery to handle Buckeye crude, and a rigid proration curb placed on the field last summer, Buckeye Township continues to increase production. Buckeye troubles likewise have not acted as a curb on extension of development to other localities of Gladwin County, and extensive development in the near future is indicated for the newest possibilities—Bentley and Secord townships. Drilling permits issued point to much activity in those fields, still considered as wildcat territory, but with a minor few proved producers indicating future possibilities.

With Secord and Bentley townships added to Gladwin's list, that county now can claim possibilities in six townships—including Buckeye. Billings, Tobacco and Hay townships are other spots of potential production under cautious development.

A flurry of future activity in Bentley Township was indicated through Durham & Jones No. 1 La Furgey, SE SW NE section 20-17n-2e, which was estimated last week to be a 50 to 75-bbl. producer naturally, and this week developed a gauge of 125 bbls. after acid during a 19-hour run. Settled production will be approximately 80 per cent of this figure, operators estimated. The initial is significant in comparison with the Buckeye discovery well in the Oard pool in July, 1936, when Beaver Trust brought in its No. 1 Oard, SW SW SE section 25-18n-1w, at approximately the same figure. While no other wells were developed on the Oard lease, the discovery opened up the entire Buckeye pool. Six months later Wicklund Development Co. brought in its No. 1-A State in section 10-18n-1w to open up the north Buckeye pool.

Will history repeat itself in the development in Bentley, is the question operators are asking in view of developments recently. Secord development to date, with Whitehill, Clovis & Drury No. 1 Bosley, NE NE SE section 11-19n-1e, already an established producer at 150 bbls. daily, apparently confines the Secord field, with future activity assured. Chapman Oil Co. No. 1 State, C N half NW NW section 33-17n-2e, the status of which was in doubt last week while 100 feet in the Dundee, was delayed this week by a fishing job. This well is 1 mile southeast of Harold Hands No. 1 Smart, discovery well in Bentley.

North Buckeye

For the second successive week Sun Oil Co. became the major producer in the north Buckeye pool, continuing to add to its string of prolofic leases with no indications that the parade would stop for some time to come.

From a 100-bbl. natural producer last week Sun's No. 3 B. Luks, SE NW NE section 10-18n-1w, developed this week into a 800-bbl. well after acid, to lead producers in both Buckeye fields for the second successive week. Close to this gauge was Sun's No. 7 Ockerman, NE NE SW section 10-18n-1w, which was acidized and developed 750 bbls. daily, likewise its No. 8 Ockerman, NW NW SE section 10-18n-1w, also a 750-bbl. well after acid. Sun's No. 13 M. Rabb, NW SE NE, section 10-18n-1w, came in with an estimated natural production of 200 bbls. daily, but was shut in and not placed in production.

Through its producers added this week, Sun Oil Co. made a net gain of more than 2,000 bbls. a day, with several yet to come in.

Other north pool producers included C. W. Teater No. 4 Domokos, NW NW NW section 11-18n-1w, which developed 300-bbl. production after acid. Cryden & Rowmor No. 2 Shaffer, NW SE SW section 12-18n-1w, filled with oil this week and was tubed and prepared for a 1,000-gallon acid shot. Rowmor Corp. No. 2 Manyet, SE NW SE section 3-18n-2w, a northwest extension of the north pool, reported a hole full of oil at a total depth of 3,627 feet, and planned to acidize.

South Buckeye

South pool developments were featured this week by a further westward extension of the south pool in section 35 when Rex Oil & Gas Co. No. 1 Cody Smith, NE NW NW section 35-18n-1w, developed a natural production of 200 bbls. The gauge is sufficient to warrant further exploration to the west in the south pool. The well is the best producer in the western area, and operators were enthusiastic over prospects. Over on the other edge of the extreme south pool—the eastern boundary—Gordon Oil Co. had a disappointing show with its No. 6-A State, SW SE NE section 36-18n-1w, which developed only 40 bbls. after acid .

A further connecting link between the so-called midway pool and the south pool proper was developed by R. F. Voorhees No. 1 Buehler, SE SW NE section 26-18n-1w, which was gauged at 300 bbls. natural production. To the eastward, on the northern boundary of the south pool, Trier Petroleum Co. No. 2 McMahon, NW SW NW section 25, developed 300-bbl. production after acid.

The so-called midway pool again drew attention by developing another successful producer near Hanners Development Co. No. 1 Armstrong, "tattle-tale" well of the area, when Rex Oil & Gas Co. No. 2 Wooding, SW SW SE section 23-18n-1w, gauged 200 bbls. after acid. The well is two locations south and two east of Hanners discovery well, and forms another connecting link in a chain of producers that connect the midway sector with the south pool proper.

Jacob Beck No. 1 Buehler, SW SW SW section 24-18n-1w, was a star performer in the far eastern midway area when it came in at 275 bbls. naturally. Still further east by a quarter mile, Pence & King No. 1 Stahl, SW SE SW section 24-18n-1w, made a 300-bbl. gauge after acid to continue pushing eastward the midway pool, and linking to the south with section 25 development.

Isabella County—Sherman Township

First major extension test in the Sherman field in a month developed when McClanahan Oil Co. No. 1 Terry, SE NW SE section 32-15n-6w, initialed approximately 75 bbls. daily. The well is a valuable westerly extension in the field, and points to opening up several new locations. Utilities Pipe Line Co. No. 1-A Mitchell trustee, SE SE SE section 29-15n-6w, gauged an initial production of 1,340,000 feet daily, rating as a favorable gasser. The well is producing at 1,444 feet. Eight other oil and gas tests are active in the area.

Midland County—Edenville Township

Hopes continued for an Edenville pool either as a new field or as an extension of the Beaverton pool as Sun Oil Co. No. 1-B State, N half SE NE section 5-16n-1w, which had 200 feet of oil in the hole two weeks ago, was drilling out cement between the 5- and 6-inch casings, preparatory to acidizing this week.

Midland County—Jasper Township

Pure Oil Co. No. 3-B Bond, C S half NE SE section 12-13n-2w, was reported swabbing after acid, preparatory to entering commercial production.

New Permits

Quickening of the drilling pace in Michigan's oil fields, accompanied by extension of wildcatting operations as drillers seek to open up new territory, is revealed in the past week's list of drilling licenses by the state conservation department.

The week's permit list carried 25 licenses, the largest number in several weeks. To Gladwin County, currently the richest of the state's oil areas, went 17 of the 25 permits, 13 of them for Buckeye Township locations, with one each in Bentley, Grim, Hay and Secord townships. Midland and Ogemaw counties took two each, while one went to each of Allegan, Bay, Gratiot and Kent counties.

Question of State Lands

Oil operators anxious for the chance to lease more state-owned lands, particularly a big block of acreage in Roscommon County, off to the northwest of the rich Buckeye area in Gladwin County, are speculating on the course of action to be followed by the state conservation commission, which a month ago halted the offering of state lands at leasing auctions.

The commission was expected to decide at its December meeting whether it would be merely a temporary suspension or a long-term policy, based on the theory that, insofar as the conservation department is concerned, it is better conservation to keep the oil in the ground until the market situation improves.

Important Purchase

Mammoth Producing & Refining Corp. and Sun Oil Co. have purchased outright a 1,250-acre tract in sections 2, 3, 4 and 10 in Secord Township, Gladwin County.

Drilling will be begun at once, it was announced, with Daily Crude Oil Co. staking a location in section 10-19n-1e, 1 mile west and slightly north of No. 1 Bosley, NE NE SE of section 11.

The development, it was announced at the Mammoth offices, will follow a northwesterly direction from the Bosley well, a wildcat brought in about two weeks ago with small commercial production. The trend of drilling will parallel the northwest-southeast course of production in the adjacent Buckeye field.

The development, scheduled to continue throughout the winter, will be handled jointly by Sun Oil Co. and Mammoth Producing & Refining Corp., both big operators in the prolific Buckeye Township field, now Michigan's biggest oil-producing region.

The property was purchased by Sun and Mammoth from Zola Caplan of Clare, who purchased it a few months ago from Frank I. Wixom, Edenville hydroelectric operator.

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Among Gulf Coast Drilling Contractors

Patrick & Tyrell have opened another producing area in Texas with the completion of Merit Oil Co. No. 1 Wright, which is flowing approximately 158 bbls. of oil daily through various chokes along with considerable salt water. The well will no doubt be worked over before it is officially completed. Two new locations have been made by the company.

Ben (Bud) Coyle plugged back D & D Oil Co. No. 2 Lutcher Moore, on the North Starks Prospect, Calcasieu Parish. The hole was drilled to a total depth of 9,674 feet and has been plugged back to the bottom of the 7-inch casing at 8,579 feet. A production test is expected to be made around 8,400 feet where extremely high gas pressures were encountered.

W. V. Bowles spudded Texas Co. wildcat at the Hilje Prospect in Wharton County and is drilling below 3,800 feet. In Victoria County his No. 1 Robertson has attracted attention due to a drill stem test which showed 120 feet of oil and 120 feet of salt water at 5,610-29 feet. The test was made in a sidetracked hole bottomed at 5,629 feet and another test was scheduled to be made.

Nicklos Drilling Co. is expected to start moving a rig to a location in the Villa Platte field in Evangeline Parish, Coastal Louisiana. This is the first location to be made by Continental Oil Co. following the completion of the discovery well which was also drilled by the same contractor and which opened a new producing horizon for the Louisiana district. In the meantime, one rotary is operating in the Tepetate field for the Continental Oil Co. and in the Valentine field, three rigs are running for the Pan American Production Co.

Smith & McDannald have apparently opened production for themselves in the Hamman field with the showing of No. 1 Gaines. The hole is bottomed in a section of sand showing oil and gas at 8,212 feet and a string of 7-inch casing has been cemented at 8,117 feet. In the Dickinson field, Pure Oil Co. No. 2-A Hutchins has been completed and is a good producer. The rig will probably be moved to another location. Other activity is reported in the Jennings field, where Shell Petroleum Corp's. No. 3 Community is coring for the pay at 6,893 feet; at South Houston, Hastings, Louise and Charenton for the Stanolind Oil & Gas Co., Pure Oil Co. and Pan American Production Co.

Rowan Drilling Co. opened a second producing horizon on the Venice Dome, Plaquemines Parish, in Coastal Louisiana, with the completion of Tide Water Associated Oil Co. No. 4 Manhattan Fruit Co. which is flowing approximately 20 bbls. per day from perforations at 7,100 feet. The discovery well was completed at 7,208 feet. The rig is being moved to the location for No. 5 Manhattan Fruit Co.

There were 29 locations reported on the Texas Coast the past week. The majority of these were made by Stanolind Oil & Gas Co. and Humble Oil & Refining Co. including six wells in the Hastings field. Other fields receiving new activity included Manvel, West Columbia, Heyser, Dickinson, Friendswood, Pierce Junction, Withers, Pickett Ridge, Magnet, Anahuac, Saratoga, Spindletop Hardin, and Orange.

Harry L. Edwards Drilling Co. marked up another good producer for the Woodley Petroleum Co. in the Hardin field, Liberty County with the completion of No. 4 McMurtry, which flowed 568 bbls. per day through a ¼-inch choke from a total depth of 7,597 feet. Active operations include Stanolind Oil & Gas Co. No. 1 Warren Minerals at the Hockley Dome in Harris County, and in the Hastings field, where one rig is operating for Humble Oil & Refining Co.

H. J. DeArman abandoned his No. 1 Edmundson, an outpost to the Sandy Point field after it showed salt water on a drill stem test through perforated casing. This winds up drilling operations in that field for the present. In the Huffsmith area, Harris County, DeArman's No. 1 Geiseke is drilling in shale below 3,900 feet.

Rutherford Drilling Co. operations in the Buckeye field, Matagorda County, have been temporarily delayed due to mechanical trouble, while at Van Vleck, Skelly Oil Co. No. 14 Cobb is drilling below 9,000 feet and is scheduled to be drilled below 10,000 feet. Other Rutherford operations include Superior Oil Producing Co. No. 1 Kock at Riveria Beach in Kleberg County, drilling below 5,400 feet and Rutherford Drilling Co. and Tide Water Associated Oil Co. No. 1 George, a wildcat located midway between the Sinton and Taft fields. The well is below 5,622 feet.

Glenn H. McCarthy is clearing up a 11,000-foot fishing job for Sun Oil Co. in the Palacios field; is preparing to take a potential test at Texas Co. No. 2 Yount, which extends the Amelia field a short distance to the west; is nearing the expected pay horizon at Orange with No. 1 Brown, and is drilling below 4,000 feet on No. 1 Broussard at the Cheek area in Jefferson County.

Conroe Drilling Co. of Corpus Christi is moving in a rig for a wildcat—a 6,500 foot test, to be drilled in San Patricio County on its James R. Dougherty lease, west of the Angelita field and in the James McGloin Survey.

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Texas and Louisiana Gulf

TWO NEW COAST FIELDS IN TEXAS; PROSPECTIVE POOLS

By
NEIL WILLIAMS

HOUSTON, Tex., Dec. 6.—The opening of two new fields, prospects of extensions being made in proven areas and a scheduled production test of two possible pool openers were the featured developments along the Gulf Coast district in the past week.

The Cedar Bayou Prospect, northwestern Chambers County, can be classified as a new pool following the completion of Merit Oil Co. and others No. 1 T. & M. Wright, which is flowing approximately 580 bbls. of fluid per day, of which 176 bbls. is 31 gravity oil and the remainder salt water. Production is from the Marginulina sand through perforated casing at 5,431-33 feet. It is flowing through various chokes and may be recompleted before it is officially completed. The company is reported to have made locations for two wells.

Flank drilling in the Port Neches field, Orange County, Texas, was forecast following the completion of Texas Co. No. 6 Starks, which is flowing 400 bbls. per day of 37.4-gravity oil through a three-eighths inch choke. This well is located about a half mile north and west of shallow production in the E. Hall Survey, and is producing from the Oligocene sand topped at 5,920 feet and bottomed at 5,944 feet.

Operators interested in the Segno field, southern Polk County, were watching the progress of H. H. Weinert and others No. 1 Hooks, which has indicated a possible 3,000-foot southeast extension to the field. Sand with a good showing of oil was cored at 5,313-33 feet and sand with lime streaks showing oil was cored at 5,333-53 feet. It is coring ahead below 5,400 feet, and casing is expected to be run this week. It is a half mile northeast of Gulf Oil Corp. No. 8 Wing, a new discovery, and about 1½ miles west of Humble Oil & Refining Co. production from the 5,300 foot pay.

Considerable interest was attracted to the Hitchcock field, Galveston County, following the completion of N. W. Hunter No. 1 Maco Stewart which flowed an initial production of 474 bbls. of pipe line oil through a three-sixteenths inch choke. Bottomed at 5,157 feet, with 5½-inch casing cemented on bottom, production was obtained by perforating at 5,140-52 feet, which is approximately the same depth from which the discovery well is producing. The potentiality of this area had been considered small owing to the fact that four dry holes had been drilled, and that the discovery well was only a small producer. No. 1 Maco Stewart is 600 feet west of the discovery well in the J. Spillman Survey.

In the Hardin field, Liberty County, Woodley Petroleum Co. No. 4 McMurtry flowed 568 bbls. per day through a quarter inch choke from a screen setting at 7,590-97 feet. To the southeast, Strake Petroleum Co. No. 2 Finley perforated casing at 7,542-46 feet, and is flowing gas with a small amount of distillate. It will probably be recompleted. Atlantic Refining Co. staked location for No. 1 McMurtry, and is expected to start drilling operations immediately. It is an east offset to No. 4 McMurtry.

In the Seabreeze field, Chambers County, casing was being run for a production test at Sun Oil Co. No. 2-A Broussard and Hebert. Sand showing oil was cored at 8,230-40 feet and the hole is being reamed to a total depth of 8,280 feet, preparatory to running casing. The same company's No. 1 Hoffman a south offset to the company's No. 3 Acom, topped sand showing oil at 8,422 feet and cored to a total depth of 8,465 feet where a Schlumberger survey is being run. Casing will be run for a production test.

At Anahuac, Chambers County, Humble Oil & Refining Co. has cemented casing for a production test at No. 2-C Middleton, about 3,000 feet west of production in section 56. The hole is bottomed in hard tight sand at 7,113 feet and the formation is to be shot before the production test is made.

Prospects were bright for the first oil production in the Clinton field, Harris County, as Stanolind Oil & Gas Co. No. 1 Oates is flowing wash water and oil into the pit. There was very little gas. Production is from the Miocene at 3,797-3,835 feet, the total depth. The well is east of the discovery well, a high-pressure gas well at approximately 8,100 feet.

At Sandy Point, Brazoria County, H. J. DeArman No. 1 Edmundson about 6,000 feet southeast of production has been abandoned after flowing salt water when tested at 6,552-60 feet. Two previous tests at 6,463-65 feet and 6,505-09 feet showed the same results.

Republic Production Co. and Houston Oil Co. No. 2 Sabine Tram, 2,159 feet southwest of the discovery well of the Call field, Newton County made a drill stem test at 7,105-23 feet through quarter inch chokes top and bottom, and showed 85 pounds of working pressure and 17 thribbles of oil. The hole is bottomed at 7,123 feet and 7 inch casing has been cemented at 7,105 feet. It is expected to open a new sand, as the discovery well is producing at 6,908-18 feet.

Northwest of LaWard in Jackson County Hargrove and others were running 5 inch casing in No. 1 Hodges in lot 165 of the I&GN Survey, which was reported last week as abandoned at 6,525 feet. The casing will be cemented on bottom and a test will be made at 5,260-70 feet which showed sand and sandy shale with an oil odor.

On the McFaddin Prospect, Jefferson County, Shell Petroleum Corp. No. 1 W. P. H. McFaddin, a possible pool opener, late in the week found a second sand showing oil and the operators were preparing to core. The section was topped at 5,505 feet and was drilled to 5,510 feet. A previous drill-stem test at 5,460 feet brought up 60 feet of mud and 3,600 feet of salt water. The well attracted attention in the previous week when it showed 450 feet of oil on a drill stem test at 5,391-5,408 feet.

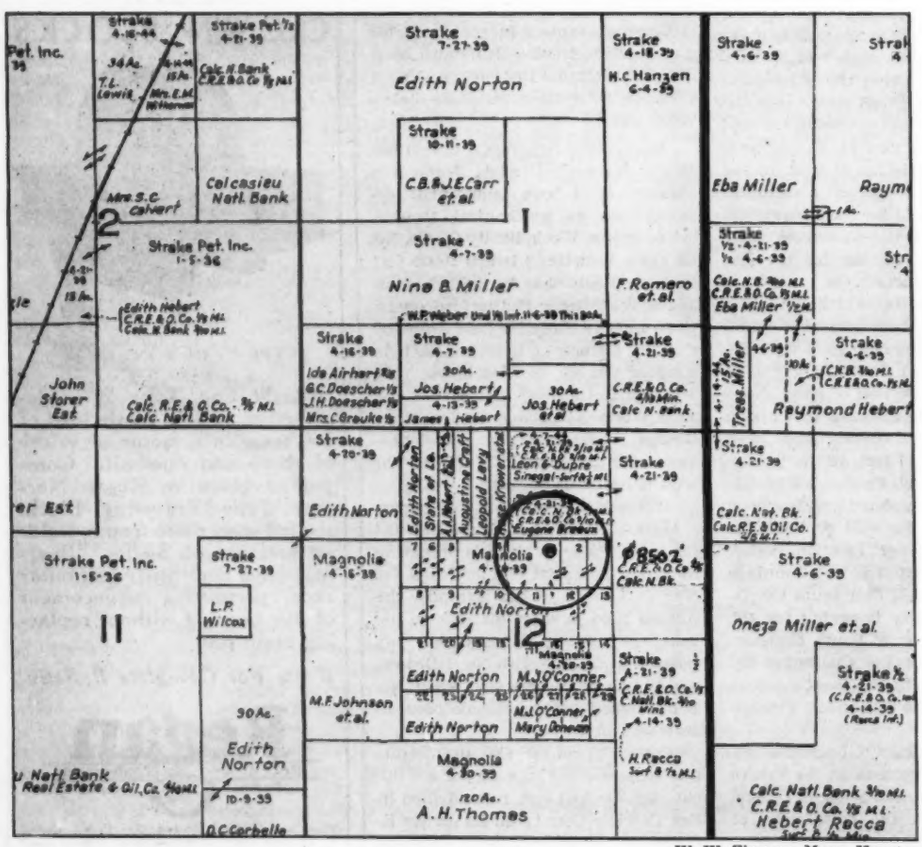
The northeast side of the Hastings field, Brazoria County, was defined with the abandonment of Pearland Oil Co. No. 1 J. E. Latimer, at a total depth 6,232 feet, after topping salt water sand at 6,212 feet. It is northwest of Humble Oil & Refining Co. McDeed 161 acre tract in the HT&B Survey No. 27.

Gulf Oil Corp. No. 20-C Kirby, an outpost a half mile southeast of production in the Cleveland field, Liberty County, perforated casing at 5,820-23 feet and flowed 66 bbls. of distillate in 24 hours through a three-eighths inch choke. At the end of the 24 hour period the well began to produce salt water and it is shut in awaiting orders.

Louisiana Coast

Along the Louisiana Coast, Gulf Oil Corp. No. 3 State section 17-19s-17e the discovery well of the Quarantine Bay field, Plaquemines Parish, is shut in awaiting storage after its initial production of 845 bbls. per day through a quarter inch choke, with tubing pressure 1,375 pounds and casing pressure 1,100 pounds. Gravity of the oil is 36 degrees. Production is from the Miocene sand at 8,144-8,204 feet, total depth.

Interest is centered on two wildcat tests in Jefferson Davis and Calcasieu parishes where production tests



W. W. Zingery, Maps, Houston

Woodlawn Prospect, Jefferson Davis Parish, Coastal Louisiana, showing location of Union Sulphur Co.'s attractive wildcat which is bottomed in sand and shale showing oil at 8,425 feet

are scheduled. On the Woodlawn Prospect, Jefferson Davis Parish, Union Sulphur Co. has cemented 7-inch casing at a total depth of 8,524 feet in No. 1 Calcasieu National Bank. The well is bottomed in sand and shale showing oil and a production test is expected to be made through perforations at intervals from 8,022 feet to the total depth. The well is located in section 12-9s-6w, west of an 8,000 foot dry hole drilled by the Strake Petroleum Corp.

At the North Starks Prospect, Calcasieu Parish, D&D Oil Co. has plugged back No. 2 Lutcher Moore section 1-8s-13w from a total depth of 9,674 feet, to the bottom of the 7-inch casing previously cemented at 8,579 feet. A test is expected around 8,400 feet, where a section of sand and shale showed extremely high gas pressures. While it is thought the well will make a gasser, additional development is expected.

At the Venice Dome, Plaquemines Parish, Tide Water Associated Oil Co. opened a second sand with the completion of No. 4 Manhattan Fruit Co. which flowed 20 bbls. of pipe line oil per hour through various chokes from perforations at 7,131-60 feet. The discovery well No. 3 Manhattan Fruit Co. was completed in sand bottomed at 7,208 feet.

The first location in the new Villa Platte field, Evangeline Parish was made by the Continental Oil Co. for No. 1 Louisiana Land & Improvement Co. in the center of a 40-acre tract in section 46-3s-2e. The discovery well was completed several weeks ago and opened the first production from the Cook Mountain horizon in Coastal Louisiana.

Superior Oil Co. No. 1 State, 1½ miles offshore from Cameron Parish, is drilling below 7,000 feet and has not had any additional showings. The well had logged 70 feet of oil sand at 5,110-80 feet.

A new sand for the Lafitte field, Jefferson Parish was opened by Texas Co. No. 4 Rigolet in section 29-17s-24e. The well was originally completed in the 9,400 foot sand and was plugged back to 8,110 feet and completed through perforated casing at 8,045-8,110 feet for 1,152 bbls. per day through three-eighths inch choke with tubing pressure 675 pounds. Gravity of the oil tested 33 degrees. All other wells in the field are producing from 9,300 to below 10,000 feet.

On the Wax Lake Prospect, St. Mary Parish, Texas Co. was drilling plug preparatory to testing No. 1 State Bateman Lake, which is expected to add another 10,000-foot producing area for that district. The hole was plugged back from a total depth of 11,808 feet to 10,809 feet, where 5¾-inch casing was cemented.

Loffland Brothers No. 1 Fontenot in the south Jennings field, Jefferson Davis Parish drilled plug to 8,910 feet and is being recompleted. Completion has been delayed due to a leaking plug which was found after the well swabbed some oil and salt water from perforations at 8,870-75 feet. The well has shown indications of opening the first oil production in this field.

On the South Crowley Prospect, Acadia Parish, Humble Oil & Refining Co. No. 1 R. A. Sarver is bottomed at 10,201 feet and is reported to have found a showing of oil in broken sand and shale from 10,181-91 feet. The well is located in section 35-10s-1e and is the third test to be drilled.

West of the Welsh field, Jefferson Davis Parish, Humble Oil & Refining Co. No. 1 T. S. Stegall topped a sand showing oil at 6,989 feet and has drilled to a total depth of 7,085 feet after three drill stem tests of the section failed.

Completed wells along the Texas Coast with their total depth and initial production were as follows:

Brazoria County

Hastings field: Humble Oil & Refining Co. No. 4-B Alexander, 6,080 feet, 642 bbls.; Humble Oil & Refining Co. No. 10-B Brown, 6,080 feet, 604 bbls.; Humble Oil & Refining Co. No. 3 King, 5,750 feet, 627 bbls.; Pearland Oil Co. No. 1 J. E. Latimer, 6,232 feet, abandoned; Stanolind Oil & Gas Co. No. 21-B Curkett, 6,080 feet, 603 bbls.; Stanolind Oil & Gas Co. No. 22-B Curkett, 6,080 feet, 516 bbls.; Stanolind Oil & Gas Co. No. 24-B Curkett, 6,080 feet, 466 bbls.; Stanolind Oil & Gas Co. No. 26-A Curkett, depth 6,080 feet, 572 bbls.; Stanolind Oil & Gas Co. No. 16-A H. H. Ford, 6,100 feet, 539 bbls.; Stanolind Oil & Gas Co.; No. 5 Matsushita, 6,080 feet, 587 bbls.; Stanolind Oil & Gas Co. No. 4 Remly, 6,080 feet, 607 bbls.; Stanolind Oil & Gas Co. No. 3 Roberts, 6,080 feet, 661 bbls.; Stanolind Oil & Gas Co. No. 1 Blanche-Woodsend, 6,030 feet, 596 bbls.; Stanolind Oil & Gas Co. No. 6 Wooster, 6,080 feet, 493 bbls.; Stanolind Oil & Gas Co. No. 2 W. S. Wright, 6,080 feet, 535 bbls. Lockridge field: McCurdy & Johnson No. 1 State, 6,367 feet, 10 bbls. distillate. Manvel field: Texas Co. No. 4 Lemmer, 4,122 feet, 455 bbls. All oil production was through quarter-inch chokes.

Chambers County

Anahuac field: Gulf Oil Corp. No. 7 G. C. Wilcox, 7,120 feet, 659 bbls., quarter-inch choke.

Galveston County

Dickinson field: Atlantic Refining Co. No. 3 Lippman, 8,164 feet, 408 bbls. per day, quarter-inch choke; Humble Oil & Refining Co. No. 1 Wm. Rohman, 8,261 feet, temporarily abandoned; Pure Oil Co. No. 2-A Sealy Hutchins, 8,118 feet, 292 bbls. in 12 hours, quarter inch choke. Hitchcock field: N. W. Hunter, 5,157 feet, 474 bbls. through three-sixteenths inch choke.

Harris County

Friendswood: Gulf Board Oil Corp. No. 1 Ross, 6,505 feet, abandoned.

Jefferson County

Amelia field: Stanolind Oil & Gas Co. No. 9 McCormick, 5,879 feet, 234 bbls. through three-sixteenths inch choke. Big Hill field: Stanolind Oil & Gas Co. No. 4-A Pipkin, 5,459 feet, abandoned.

Matagorda County

Palacios field: Atlantic Refining Co. No. 2-A Foley Land Co. total depth 8,570 feet, abandoned.

Wharton County

Withers field: Texas Co. No. 32-C Pierce Estate, 5,551 feet, 67 bbls. in 15 hours through one-eighth inch choke; Pickett Ridge: Texas Co. No. 3 Marek, 4,610 feet, 17 bbls. in 9 hours through one-eighth inch choke.

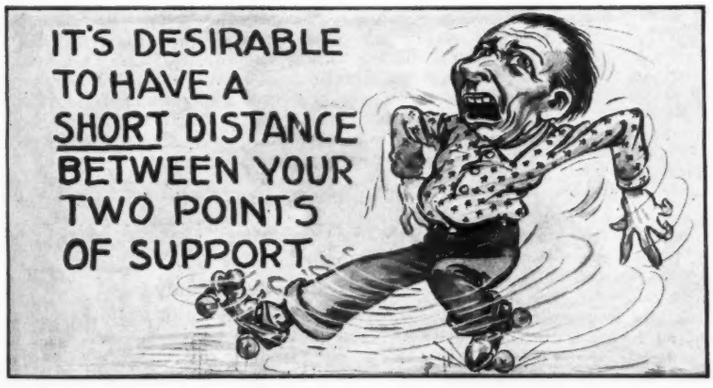
Wildcat Completions

Liberty County

Humble Oil & Refining Co. No. 1 E. F. Moore. Total depth 6,500 feet. Abandoned.

Walker County

C. W. Markel and others No. 1 Nathan Hall. Total depth 2,110 feet. Abandoned.



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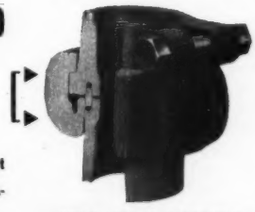

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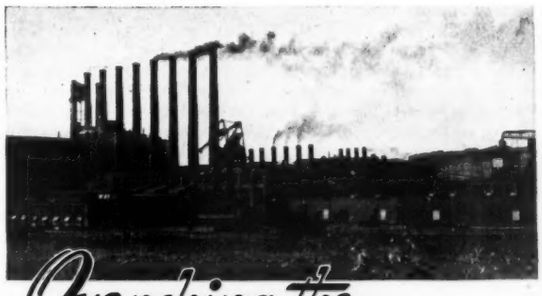

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Southwest Texas District

By
F. L. SINGLETON

EXTENSIONS AND PROBABLE NEW POOLS ARE INDICATED

CORPUS CHRISTI, Tex., Dec. 6.—Operators in the Southwest Texas district were watching the results of completion tests on several highly regarded wildcats. Extension to proven field and favorable indications encountered in other virgin territory also attracted attention.

A new field of unestimated potentiality was believed to have been assured the Laredo district as a result of the completion of Wheelock & Collins No. 1 Guerra, in the San Jose Grant, Abstract 575, in northeastern Starr County. Bottomed at 6,176 feet, with 7-inch casing cemented at 6,170 feet, the well was reported to be flowing into the pit showing wash water and some oil after the casing had been perforated at 6,125-27 feet. It made its bid for production when it showed 385 feet of oil and 385 feet of salt water on a drill stem test. The core sections showing oil and gas were at 6,076-98 feet, 6,098-6,105 feet and from 6,122-34 feet.

The Benavides field, Duval County, was extended 3,000 feet west, and another outpost located about the same distance north gave indications of production. The westward extension was made by Circle Oil Co. No. 1 West which flowed 96 bbls. per day through a three-sixteenths inch choke from Cockfield sand at 5,355-70 feet, total depth. The well is south of Navarro Oil Co. No. 1 Rossi, and opens several hundred acres for additional development. Offset acreage is held by Glenn H. McCarthy, who is expected to start activity within a few weeks. Northeast of production about 3,000 feet, Lonnie Glasscock was preparing to test No. 4 Farias which showed 170 feet of oil and mud, with 75 pounds of working pressure, on a drill stem test at 5,354-68 feet. Sand was reported to have been found at 5,358-68 feet, the total depth, and 7-inch casing was cemented on top of the sand. The interesting feature of this well is that it is located north of production from the Gravis and Parr sands, which indicates that Cockfield production may be found in the area, which is now producing from the 4,700- and 4,800-foot horizons. Benavides is one of the most important fields in the Laredo district as it covers approximately 7,000 acres and with the exception of one dry hole drilled on the northeast side, the field is undefined. Prospects of extending it to the east, however, were not bright as Frank Gravis No. 1-A Vaello showed salt water on a drill stem test in the Cockfield sand. This sand has been tested by other wells in that direction, and all have shown the section to carry salt water. The Gravis well is drilling below 5,400 feet and is expected to be plugged back, and the Gravis sand tested around 4,800 feet where showings of oil and gas were found.

J. R. B. Moore No. 1 Garcia-Villareal, which has indicated a 1-mile north extension to the active Oilton field, Webb County, is bottomed in sand showing oil and gas at 2,442 feet and a drill stem test was scheduled to be made. A 10-minute drill stem test at 2,420-30 feet showed 450 pounds of working pressure. Location is in Survey No. 338.

Corpus Christi Area

In the Corpus Christi area interest was centered on wildcat operations in Victoria County where production tests showed favorable indications. Southeast of Telferner, W. V. Bowles No. 1 Robertson, in the Thomas C. Burnham Survey, made a drill stem test in a sidetracked hole at 5,610-29 feet which showed 90 feet of mud, cut with oil, 120 feet of oil, 120 feet of salt water and 25 pounds of pressure. Late in the week another test was scheduled. The hole was originally drilled to 6,120 feet, plugged back, sidetracked and redrilled to 5,629 feet. Midway between the Placedo and Keran fields in the Eugene Benavides Survey, Stanolind Oil & Gas Co. No. 1 Henderson & Pickering showed oil and salt water on a drill stem test through perforations at 6,371-78 feet. The perforations have been squeezed off and a second test is being made at 6,375-82 feet.

Union Producing Co. No. 1 Simmons, in the Agua Dulce Grant, 3 miles north of the Agua Dulce field, and about 2 miles northwest of Banquete, has attracted attention due to a drill stem test at 5,825-56 feet. It showed 75 feet of distillate and 400 pounds of pressure through a quarter-inch choke. Information on core records, shows sand having a gas odor at 5,190-95 feet, 5,216-25 feet and from 5,433-40 feet. Late in the week the operators were coring below 6,700 feet.

In the same county but in the Luby field, Seaboard Oil Corp. No. 5 Luby is flowing into the pit but no gauge has been reported. It is producing from perforations at 4,342-52 feet. Same company's No. 7 Luby has cemented casing on bottom and is preparing to complete through perforations. The Railroad Commission has ordered a 20-acre spacing program for the field.

Additional development was due in the southwest section of the Saxet field, following the completion of D. McGahey No. 2 Matt Cody. Although no gauge is available, the well is considered a good producer, as it flows through a quarter-inch choke showing 150 pounds pressure on the tubing and 300 pounds on the casing. The well is producing from the shallow sand at 4,081-84 feet.

Richard King Field

Southern Mineral Corp. No. 2 King was completed two weeks ago as the discovery well of a new field in Nueces County, which has been designated as the Richard King field. Production was obtained from perforations at 4,017-20 feet. As the well was a small producer, considerable interest is centered on the same company's No. 3 King, about three-quarters of a mile southwest of the discovery, which is drilling at 3,800 feet. Northwest of Robston, in the J. Lopez De Herrera Survey, Culton & Meador No. 1 Bailey Estate is bottomed at 6,550 feet, where a Schlumberger survey is being made.

In San Patricio County, A. L. Bob No. 1 Green, in the T. T. Williams Survey, is being closely watched as a drill stem test at 4,410-69 feet showed 70 pounds of working pressure, with some salt water. The well, southeast of Gregory, is in an area in which several deep tests have been drilled, all having had encouraging showings. Northwest of Mathis, in the Delgado Grant Survey, Argo Oil Corp. No. 1 Soehnge was abandoned after it tested salt water at 4,843-47 feet. A new wildcat location was made by the Conroe Drilling Co. for No. 1 James R. Dougherty, west of the Angelita field, in the James McGloin Survey. It is scheduled to be drilled to 6,500 feet.

Along the Jackson Trend two wildcat operations in Goliad and Jim Wells counties held attention, but prospects of production were not encouraging. Rual Swinger No. 1 Wood, in the J. Shearn Survey, southern Goliad County, perforated casing at 5,008-25 feet and swabbed salt water. The perforations are expected to be cemented off and another test made as favorable indications were encountered from 4,971-5,027 feet. In the same county and located 1 mile south of Goliad, Goliad Oil Corp. No. 1-A Cole is preparing to test after perforating liner from 5,500-5,603 feet. The well is reported to have built up pressure as high as 400 pounds.

In Jim Wells County, Howell and others No. 1 Talbot, 5 miles east of Premont in the Lavaca Grant, reperforated casing at 3,317-22 feet and swabbed salt water. The perforations have been squeezed off and the casing is to be reperforated. Trinity Drillers No. 1 Shaffer in the Z. Cuellar Survey, Abstract 113, was abandoned at 6,514 feet.

A possible 1-mile southwest extension to the Las Animas field, Jim Hogg County, was recorded by Darby Petroleum Co. No. 1-C Holbein which is expected to develop into a commercial gas well in the Cole sand at 1,770-89 feet. It is coring ahead.

In the Balcones Fault Line district, new activity was getting under way in the recently opened Nash Creek field in Guadalupe County as Carver & Kallison start operations on four tests, No. 1 T. C. Howell, No. 2 Rumit, No. 1 Kelly and No. 1 Rumit.

L. W. Stiern No. 1 Crawford, about 2 miles west of Anchorage in the J. C. Crawford Survey, in Caldwell County, which has been testing a showing encountered in Chalk formation at 3,476 feet is pulling tubing and liner preparatory to drilling to the Edwards lime. If production is not encountered by drilling deeper, the test will be plugged back to its present depth and another production test will be made.

In the Cedar Creek community, Bastrop County, Hanthon-Nelson No. 2 Litton, a west offset to the discovery well, topped Austin Chalk with a showing of oil at 1,905 feet and a production test is being made with the hole bottomed in Chalk at 1,995 feet.

Completed Wells

Completed wells in the proven fields and wildcat areas, with their total depth, and the initial 24-hour production of the producing wells were as follows:

Aransas County

McCampbell field: Atlantic Refining Co. No. 9-C McCampbell, 7,130 feet, 209 bbls.; Atlantic Refining Co. No. 1-D Murray, 7,287 feet, 85 bbls.; Graham & Buckingham Oil Co. No. 3 Porterfield, 7,140 feet, 392 bbls.; Graham Oil Co. No. 2 Edwards, 7,144 feet, 358 bbls. Lamar field: Barnsdall Oil Co. No. 1 Kate Edwards, temporarily abandoned. All production was through three-sixteenths inch chokes.

Bexar County

Von Ormy field: Roger & Putnam No. 9 Wetz, 660 feet, 4 bbls.

Caldwell County

Branyon field: Second National Oil Co. No. 2 White, 2,430 feet, plugged back to 2,425 feet, abandoned.

Duval County

Driscoll field: Continental Oil Co. No. 20 Driscoll Sevier, 3,351 feet, 132 bbls. through one-fourth inch choke. Loma Novia field: Rodney DeLange No. 11 Wright, 2,656 feet, 30 bbls., pumping. Peters field: Gier & Kone Production Co. No. 2 Peters, perforated casing 1,720-24 feet, gas well. Thomas Lockhart field: Lockhart Bros. No. 1 Rogers. Total depth 5,541 feet, abandoned.

Calhoun-Victoria Counties

Heyser field: Humble Oil & Refining Co. No. 20-B P. H. Welder, 5,497 feet, 240 bbls. through three-sixteenths inch choke; Humble Oil & Refining Co. No. 5 Marshall, 5,470 feet, 353 bbls., through three-sixteenths inch choke; Sinclair Prairie Oil Co. No. 2 W. H. Bennett, 5,739 feet, 94 bbls. through 3/32-inch choke.

McMullen County

Ezzell field: Harry Ezzell No. 4-A feet, 1,520 feet, 27 bbls., pumping; Harry Ezzell No. 5-A fee, 1,528 feet, 302 bbls., pumping; Harry Ezzell No. 7-A, 1,525 feet, 100 bbls. through open 2-inch tubing.

Nueces County

Luby field: Seaboard Oil Corp. No. 2 Luby, 5,074 feet, 179 bbls. through one-eighth inch choke; Seaboard Oil Corp. No. 2 Shaffer, 5,069 feet, 162 bbls. through one-eighth inch choke; Stanolind Oil & Gas Co. No. 4 McCann, 5,061 feet, 156 bbls. through 5/32-inch choke. Saxet field: Houston Oil Co. No. 36 Morgan, 4,547 feet, 60 bbls. through three-sixteenths inch choke; Daniel & McGhey No. 1 Cody, 4,171 feet, 185 bbls. through one-fourth inch choke. Saxet Heights field: W. H. Harrison No. 3 McConnell, 307 feet, temporarily abandoned.

San Patricio County

Plymouth field: Plymouth Oil Co. No. 86-C Welder, 5,645 feet, perforated casing 4,641-44½ feet, 9 bbls. through 9/64-inch choke; Plymouth Oil Co. No. 87-C Welder, 5,645 feet, perforated casing 5,641-45 feet, 7 bbls. through 9/64-inch choke; Plymouth Oil Co. No. 88-C Welder, 5,645 feet, perforated casing 5,641-45 feet, 144 bbls. through 9/64-inch choke.

Starr County

Ricaby field: Dean Brothers No. 1 Miquel, 1,873 feet, 30 bbls. of fluid, 25 per cent salt water.

Webb County

Killam field: French Oil Co. No. 6 Perez, 1,999½ feet, 5 bbls., pumping; Navarro Oil Co. No. 1 Perez, 1,988 feet, 50 bbls., pumping; Navarro Oil Co. No. 2 Perez, 1,986 feet, 60 bbls., pumping. Mirando City field: Ross Amigos Oil Co. No. 3 Breckenridge, 1,901 feet, gas well. Oilton field: Bridwell Oil Co. No. 14 Martin, 1,918 feet, 130 bbls., pumping; Cox & Hamon No. 4 Garcia, 1,916 feet, 145 bbls., pumping; Hamil & Smith No. 8 Martin, 1,980 feet, 85 bbls. through half-inch choke; Moore Trustee No. 2 Ramerez, 1,925 feet, 125 bbls. pumping.

Zapata County

Escobas field: Dunlup Oil Co. No. 30 Trevino, 467 feet, abandoned.

Wildcat Completions

Duval County: Magnolia Petroleum Co. No. 1 Duval County Ranch Co., 3,755 feet, abandoned. Slaughter & Kugle No. 1 Hunter, 4,732 feet, abandoned.

Guadalupe County: Wellington Oil Co. No. 1 Koepp, 1,628 feet, abandoned.

Nueces County: Mills Bennett Production Co. No. 1 Johnson Hebert, 5,689 feet, abandoned.

Starr County: Sioux Oil Co. No. 6 Ricaby, 1,751 feet, abandoned.

Webb County: Mills Bennett Production Co. No. 1 Gates, 2,811 feet, abandoned.

Randon Oil Co. No. 1 A. M. Bruni, 1,824 feet, abandoned.

California Fields

(Continued from Page 82)

in the Long Beach section of the field come up to expectations. Bankline Oil Co., which is running four strings of tools in the Wilmington field, completed No. 24 D. H. C. flowing 468 bbls. of 20.5-gravity oil cutting 2 per cent daily from 3,312 feet. This well is flowing through a 24/64-inch bean and was finished with 314 feet of 6⅝-inch liner including 298 feet of perforated landed at 3,309 feet. Raleigh Oil Co. No. 1 Patten was good for 280 bbls. of 18.6-gravity oil per day from 3,646 feet. The hole was finished with 682 feet of 5 $\frac{8}{16}$-inch liner carrying perforations at 3,022-3,222 feet and 3,296-3,646 feet. Royalty Service Corp. No. 22-7-2 has been completed flowing 165 bbls. of 18.5-gravity oil daily from 3,604 feet.

El Segundo

Three excellent wells were completed in the El Segundo field of Los Angeles Basin during the week and finishing touches are being put on several potential producers. It is believed at least three wells should be completed next week and that another four should be ready for production tests within a fortnight. Apex Petroleum Corp. completed its first producer in this field by finishing No. 1 Elsie flowing 1,330 bbls. of clean 27.2-gravity oil per day from 7,103 feet. Ruchti Oil Co. No. 4 El Segundo was good for 476 bbls. of clean 27.3-

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Replacement Parts During Entire Service—one fan belt.

Extent of Wear and Maintenance required after 34,645 hrs.—Cylinder wear, .0035—.004 in.; Valve guide wear, .002 in. (not replaced); Piston wear negligible (not replaced); Valves and seats, good condition; 2 exhausts, slight leak (ground); Timing gears, OK; Main bearings, slight wear (not replaced); Rod bearings, slight wear (thin shim removed); Oil pump, no wear; Piston rings, slight wear (replaced); Oil pump screen, two-thirds closed with carbon sludge; Carbon sludge in oil pan, one pint.

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WELL....5518 pumping level; 2¼ upset tubing; 1⅜ x 54 in. pump; ¾ sucker rod; 20 strokes per minute.

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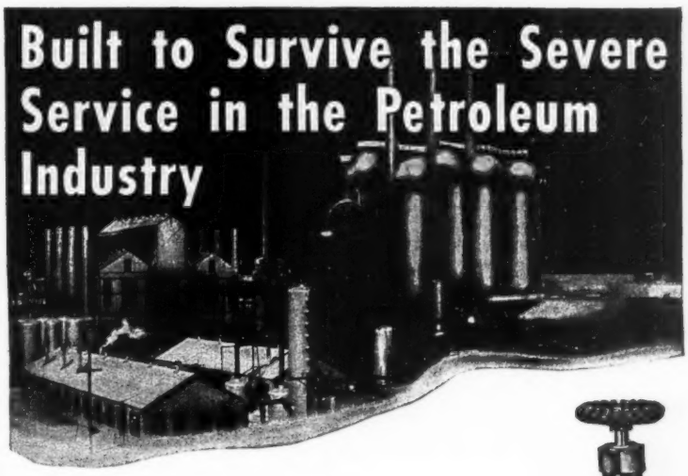

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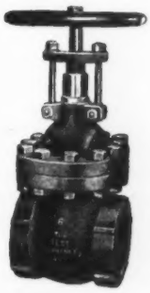

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gravity oil and 490,000 feet of gas per day from 7,099 feet after the hole had been finished with 235 feet of 5-inch liner including 214 feet of perforated landed on bottom. Ohio Oil Co. has completed another well on its Gough lease in the northern part of the field and should complete No. 10 Gough within 15 days. Ohio's new producer is No. 9 Gough, completed flowing 440 bbls. of clean 27.1-gravity oil daily from 7,320 feet after the hole had been finished with 252 feet of 5-inch liner including 198 feet of 160-mesh screen. Wilshire Oil Co. has two wells bottomed in Schist and these, along with Sunshine Oil Co. No. 1 Copinger-Wallace, Standard Oil Co. Nos. 5 and 6 on the Refinery property, Richfield Oil Corp. No. 1 McCray and Lakeside Oil Co. No. 10-1 Elsie, should be tanking oil shortly.

Santa Maria

Operators in the Santa Maria Valley field have closed a busy week during which five new wells were completed. Pacific Western Oil Co. completed its first producer on Frank McCoy's Samarin property when No. 1 was finished flowing 2,140 bbls. of clean 16.6-gravity oil per day from 4,837 feet. Top of Sisquoc was logged at 4,045 feet, top of Santa Margarita at 4,391 feet, top of Monterey at 4,590 feet and top of the Franciscan basement at 4,826 feet. Rig is going up for Pacific Western No. 2 Samarin and an early spud is expected. Signal Oil & Gas Co. has completed its initial well in the Santa Maria Valley field, but should have another potential producer ready for a test within a few weeks. The company's new producer was No. 1 Libeu, completed flowing 1,076 bbls. of clean 16.8-gravity oil daily from 4,220 feet after the hole had been finished with 313 feet of 6⅝-inch liner including 310 feet of perforated landed at 4,219 feet.

George F. Getty, Inc., completed an excellent well when No. 1 Vicente in section 27-10-34 was brought in flowing 1,065 bbls. of clean 16.8-gravity oil per day from 4,494 feet. It has 355 feet of productive Monterey and should show a relatively long life. Top of the Monterey was logged at 4,126 feet and top of the Franciscan basement was cored at 4,481 feet. No. 1 Wylie, a joint project of Hancock Oil Co. and R. R. Bush Oil Co., has been completed flowing 860 bbls. of clean 16.3-gravity oil daily from 4,940 feet after the hole had been carried down to 5,008 feet and plugged back to the completion depth when a gray siltstone was logged. Union Oil Co., discoverer of the Santa Maria Valley field, added another well to its list in this area by completing No. 3 Russell pumping 355 bbls. of exceptionally clean 17.3-gravity oil per day. This well, bottomed in Franciscan basement rocks at 4,464 feet, was finished with 455 feet of 7-inch liner all of which was perforated. The beam has a 56-inch stroke and pumps at the rate of 24 strokes per minute. A. N. Macrate, one of the pioneers in this area, has concluded drilling on No. 2 Rice at 2,839 feet after topping the Monterey at 2,592 feet and the Franciscan basement at 2,834 feet.

Kern County

In the Round Mountain field of Kern County Shell Oil Co. completed No. 16 Freeman pumping 761 bbls. of 16.1-gravity oil cutting 11 per cent daily from 1,815 feet after the hole had been carried down to 1,869 feet and plugged back. This well was finished with 32 feet of 4½-inch liner including 15 feet of perforated landed at 1,815 feet. Dwight G. Vedder completed No. 1 McDonald-Bell in section 12-28-28 pumping 295 bbls. of clean 16.2-gravity oil per day from 1,886 feet. Top of the Vedder zone was logged at 1,838 feet and the hole was finished with a 6⅝-inch liner landed on bottom. Fremont Oil Co. abandoned No. 2 Olcese in section 35-28-29 as dry at 2,776 feet without carrying the hole to the top of the productive Vedder horizon. California Western Oil Co., which recently acquired the Kernco lease of St. Helens Petroleum Co. in section 13-28-28, is rigging No. 4 and building a new rig for No. 5.

In the Fruitvale field of Kern County, Western Gulf Oil Co. completed another excellent producer on the Kern County Land property in section 14-29-27 when No. 29-B was brought in flowing 310 bbls. of clean 17.2-gravity oil daily from 3,033 feet. The company has been reserving these inside locations for some time and as a result has been completing excellent wells, whereas small producers have been finished in the more congested section of the field. On the Kern Front section of the Kern River field Standard Oil Co. completed No. 8 Ward fee pumping 138 bbls. of 13.8-gravity oil daily from 1,990 feet, and Union Oil Co. completed No. 8 Del Rey in section 11-28-27 pumping 35 bbls. of 14.5-gravity oil daily from 1,840 feet after the hole had been carried down to 1,900 feet and then plugged back. The latter was a reconditioning job and further work may be necessary as production is cutting 14 per cent.

Los Angeles Basin

In the Richfield district of Orange County in Los Angeles Basin Union Oil Co. completed No. 46 Chapman pumping 176 bbls. of 20.5-gravity oil cutting 4 per cent daily from 4,400 feet after finishing the hole with 1,560 feet of 6⅝-inch liner including 1,513 feet of perforated. The Texas Co. No. 2 Isaacs, also in this field, has been recompleted pumping 60 bbls. of 18.6-gravity oil per day after the hole had been deepened to 3,715 feet and then plugged back to 3,458 feet. In the Long Beach field the Texas Co. completed No. 4 Bauman pumping 93 bbls. of very clean 17.3-gravity oil per day from 4,756 feet. At Santa Fe Springs, General Petroleum Corp. has recompleted No. 37-A Santa Fe Community pumping 215 bbls. of very clean 31.1-gravity oil after deepening the hole to 3,785 feet. In the Sespe district of Ventura County, H. A. Ivers has completed No. 14 Star pumping 140 bbls. of clean 27.6-gravity oil daily from 1,905 feet, while in the Padre Canyon district of Ventura County Continental Oil Co. completed No. 4 Hobson after drilling to 6,028 feet and then plugging back to 5,980 feet, but got only a small pumper making 61 bbls. of 29.1-gravity oil per day. In the Cantua district of Fresno County, Union Oil Co. is preparing to drill a wildcat northeast of pioneer work done by Western Gulf Oil Co. a few years ago, and Standard Oil Co. may also enter this area as it has been making a geophysical survey for the past 10 days. This is the second survey made in this area by Standard Oil Co.

Eastern Fields

(Continued from Page 80)

pleted No. 4 Siler Coal Land Co. in Washington district at 4,750 feet, with 414,000 feet of gas at 1,777 feet; 1,846, 1,924, 3,077, 3,256, 3,445 and 3,710 feet.

In Marshall County, Cameron Heat & Light Co. completed No. 2 William Reese farm in Liberty district at 2,921 feet as a gas well gauging 100,000 feet a day. The Pittsburgh Coal was at 821 feet with the Big Injun sand at 1,968-2,228 feet and gas at 2,052-57 feet.

In Monongalia County, Ira Donley completed a test on the Thomas Sutton farm in Cass district at 2,139 feet as a gas well. The Big Injun was at 1,614-23 feet, with 134,000 feet of gas and the Fifty-foot sand was at 2,088-94 feet, with 68,000 feet of gas. In Battelle district, the Maxon Oil Co. completed a second test on the J. P. Kennedy farm through the Fourth sand and except for gas shows at 2,390 feet and 3,290 feet it was dry and is being abandoned.

In Tyler County, the Morgan Brothers drilled deeper a test on the U. G. Thorn farm in Union district to 1,600 feet at which depth the hole filled up with water and was abandoned.

Oriskany Gas Field

A large well was completed north of Grapevine Creek and the most northern extremity of the Coopers Creek pool in Poca district, Kanawha County. On the Humphreys Morton farm, 1,600 feet northwest of Sissonville, Godfrey L. Cabot, Inc., completed a test at 4,981 feet, with the Oriskany topped at 4,972 feet. It gauged 18,200,000 feet a day. In the same district, this operator on the B. M. Dulaney farm has a new well at 5,037 feet, with the Oriskany topped at 5,021 feet. It gauged 8,000,000 feet a day.

The Columbian Carbon Co. completed a second test on the Henry R. Glass farm in Poca district at 4,996 feet, in Oriskany sand, and it is good for 13,580,000 feet a day. Southwest of Sissonville the United Fuel Gas Co. on the Shirkey farm was deepening a test in the Oriskany sand which had a gauge of 9,000,000 feet a day. The bit broke off and the tools were brought to the surface and rested on the wrench in the hole. The gas spread to the engine and ignited, destroying the rig and causing a two-day torch in the field. The blaze was extinguished and the flow shut in.

In Union district, Kanawha County, the final gauge on the test of the Mullins Gas Co. on the Sarah S. Dawley farm was 430,000 feet a day after shot. In Malden district, the final gauge on the Glenn Oil & Gas Co. on the L. L. Williams farm was 200,000 feet a day after shot.

In Poca district, the United Carbon Co. topped the Corniferous lime at 5,002 feet in the test on the Garfield Spencer and others lease. This company topped the same formation at 4,626 feet in the test on the Edna J. Knight farm.

Deep Tests

In Jackson County, the second test of the United Carbon Co. on the Elizabeth Ward Perkins farm in Washington district is drilling at 5,447 feet or 100 feet in the Corniferous lime. In Ripley district, same county, the Potter Development Co. is drilling at 690 feet on the William T. Chancey farm. In Ravenswood district, W. H. Petry is down 4,300 feet in the test on the D. O. Curry farm.

In Wood County, the Belmont Quadrangle Co. has reached 3,625 feet on the C. D. White farm in Steel district. In Wirt County, the Carnegie Natural Gas Co. resumed drilling after setting casing in the Corniferous lime in the test on the W. O. Caplinger farm in Tucker district.

In Clay County, the Pittsburgh & West Virginia Gas Co. is drilling at 3,100 feet in the test on the Jesse Chapman farm in Otter district. The Owens Illinois Glass Co. has not recovered the tools lost at 5,220 feet in the deep test on the Peytonia Coal Land Co. lease in Sherman district, Boone County.

New York-Pennsylvania Fields

COUDERSPORT, Pa., Dec. 6. — Two successful gas completions in Woodhull Township, Steuben County, New York, bring the total number of gas wells in that field to 16. Two new operations reported in the New York-Pennsylvania deep sand gas fields in the past week.

Belmont Quadrangle Drilling Co. completed its well on the L. S. Johnson farm, Woodhull field, at a total depth of 4,039 feet with an initial open flow of 8,000,000 feet per day. Top of the Oriskany sand was at 4,029 feet. Cunningham Natural Gas Co. completed a well on the J. J. Johnson farm with a total initial open flow of 6,000,000 feet. This well topped the Oriskany at 3,977 feet and was completed at a total depth of 3,995 feet. Belmont Quadrangle Drilling Co. has staked a location on the F. Hilligas farm in Willing Township, Allegany County, New York, 100 feet from the west line and 110 feet from the north line of the farm.

Franchot and others have the rig up on the H. O. Perry farm in Genesee Township, Potter County, Pennsylvania. The location is 300 feet from the township line and 400 feet from the south farm line.

Pennsylvania Operations

Potter Development Co. has rig up for a rotary which will be used to deepen the Crawford farm test at Keating Summit, Potter County. This company is also cleaning out at 5,674 feet in its test on the Haupt farm, West Branch Township, same county.

Four other wells are now drilling in Potter County: P. P. & L. Co., at 5,059 feet on the G. M. Whitman farm, Harrison Township; New York State Natural Gas Co., at 3,975 feet on the A. D. Marble farm, and at 3,470 feet on the A. Schofield No. 2 farm, both in Harrison Township, and Ward Wasson, at 4,625 feet on the R. B. Hall farm, Genesee Township. The P. P. & L. Co. test topped the Oriskany at 5,056 feet.

Two of the current Warren County operations are shut down and the other two drilling. Kane Industrial Gas Co. is shut down at 4,435 feet on Lot 515, Watson Township, and Evjen and others, at 4,010 feet on the Dusenberry farm, same township. Updegraff is drilling at 4,830 feet in the O. E. Erickson test in Elk Township, and Belmont Quadrangle Drilling Co. is down 4,330 feet on Lot 487, Pleasant Township.

The Belmont test is through the Oriskany, where it found a show of salt water, and is drilling deeper. This test passed the Tully at 4,005-54 feet, topped the Onondaga at 4,218 feet and found the Oriskany at 4,294-4,311 feet.

McKenry and others are reported to be shut down again in their test on the Stellman farm, Rockland Township, Venango County, after strengthening the rig and drilling down to 3,110 feet.

New York Operations

With an even dozen operations, the Woodhull field is monopolizing the spotlight in New York state. The record of operations in this field follows:

Williamsport Oil & Gas Co., shut down at 2,400 feet on the Della Lampson farm; Southwestern Development Co., drilling at 2,380 feet on the E. G. Husted farm; drilling at 1,920 feet on the Earl Brown farm, and a location on the J. Seeley farm; Hanley & Bird, cased to 4,006 feet on the E. H. Ackerman No. 1 farm, Tully lime topped at 3,984 feet; J. Becker, drilling at 3,380 feet on the Fred Sly farm after topping the Tully limestone at 3,268 feet; New York State Natural Gas Co., drilling at

(Continued on Page 115)

East and East Central Texas

By MITCHELL TUCKER

TALCO AND SULPHUR BLUFF EXTENSION TESTS FAILURES

DALLAS, Tex., Dec. 6.—The effects of the four-Sunday shutdown continues to curb activities in East Texas. New locations dropped from 58 the previous week to 34 last week. In opposition to a proposed continuance of the shutdown for another four weeks a committee has been formed of East Texans to present their objections before the Railroad Commission. J. S. Hudnall, of Tyler, chairman of the committee, and other members seek to prevent the furtherance of this order unless it be applied to all Texas fields instead of merely East Texas.

Talco Extension Unsuccessful

Efforts of Stroube & Stroube for a 3-mile western extension of the Paluxy sand production in the Talco pool of northwestern Titus and eastern Franklin counties, loomed as a failure after unsuccessfully coring to a depth of 4,310 feet. Some encouragement was given when a core from 4,326 feet to 4,344 feet yielded a full 19 feet of recovery. The bottom 10 feet of which was black sand. The next core from 4,344 feet to 4,361 feet, a full 17 feet of recovery, showed the bottom 6 feet to be soft, gray salt water sand with tar streaks. Operators are now shut down awaiting orders. The well is in the Bozeman Survey about 8½ miles north of Mount Vernon.

Sulphur Bluff Test

A northern extension of the Sulphur Bluff pool appears unsuccessful in Hopkins County by Abbott & Ruthlands No. 1 Peyton, J. Burkham Survey. The test is located approximately 2½ miles north of Sulphur Bluff. A core from 4,198 feet to 4,218 feet showed sandy shale, while one from 4,218 feet to 4,238 feet recovered 6 feet of hard, red shale. Operators are contemplating drilling this test on to the sands of the Upper Trinity series.

Opelika Prospect

After several commercially unprofitable recoveries of gas and distillate at different depths the Seaboard-Tide Water-Humble No. 2 McElreath & Suggett, second deep well of the Opelika area of Henderson County, loomed as a probable distillate producer. At the end of the week the well flowed 12.15 bbls. of 57.6-gravity distillate hourly, through a seven-sixteenths inch tubing choke. Pressures reported were 2,500 pounds on the casing and 1,850 pounds on the tubing. Production is through perforation at a depth of 7,910 feet, plugged back from 8,890 feet where it flowed 75 bbls. of distillate daily.

New Wildcats

Three new wildcats were staked this week, one each in Grayson, Lamar and Trinity counties. Denver Production & Refining Co. No. 1 E. B. Moore, E. Barnes Survey, Grayson County, one-half mile northwest of Whitesboro, is already drilling at 200 feet. Cooper Brothers No. 2 L. B. Hayes, L. Roberts Survey, in Lamar County, 1½ miles northwest of Deport, is rigging up. In Trinity County, C. O. Bond No. 1 Texas Long Leaf Lumber Co., J. W. Crow Survey, located 7 miles southeast of Trinity, is moving in their rig.

EAST CENTRAL TEXAS COMPLETIONS

Anderson County

H. L. Hunt No. 1-B E. Tucker, Long Lake field, produced 115,000,000 feet of gas from 5,294 feet to 5,334 feet.

Lamar County

Blackman-McGee No. 1 J. M. Duff, abandoned, total depth 170 feet.

Franklin County

Flannery and others No. 9 Hedrick, Talco field, 4,249-4,306 feet, pumped 549 bbls. per day. Humble Oil & Refining Co. No. 49 A. P. King, Talco field, 4,267-4,309 feet, pumped 135 bbls. per day; No. 1-B L. Wimm, Talco field, 4,167-4,299 feet, pumped 165 bbls. per day.

Rusk County

J. W. Shipman No. 1 C. N. Banks, dry and abandoned, total depth 4,500 feet.

Titus County

Humble Oil & Refining Co. No. 7 Galt, Talco field, 4,218-85 feet, pumped 308 bbls. per day; No. 2 C. W. Galt, Talco field, 4,200-4,315 feet, pumped 233 bbls. per day; No. 30 A. P. King, Talco field, 4,220-4,307 feet, pumped 135 bbls. per day; No. 2 G. A. McPeters, Talco field, 4,208-4,308 feet, flowed 120 bbls. per day. Lucey Petroleum Co. No. 10 Williams, Talco field, 4,264-86 feet, pumped 411 bbls. per day.

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EAST TEXAS FIELD COMPLETIONS

Gregg County

Hugh Allen No. 2 W. T. Hall, 3,606-18 feet, 60 bbls. per hour. Atlantic Refining Co. No. 38-B W. T. Burnside, 3,475-3,540 feet, 65 bbls. per hour; No. 18 J. Wilson, 3,530-3,642 feet, 54 bbls. per hour. F. H. E. Oil Co. No. 13 J. Flemister, 3,622-55 feet, 66 bbls. per hour. Gilcrease Oil Co. No. 4-A A. Tocke, 3,525-55 feet, 60 bbls. per hour. Humble Oil & Refining Co. No. 12 McFarland, 3,636-88 feet, 50 bbls. per hour. Inoy Petroleum Co. No. 32 L. J. Everett, 3,653-58 feet, 50 bbls. per hour. Magnolia Petroleum Co No. 12 I. Ziegler, 3,473-84 feet, 60 bbls. per hour. Peyton Brothers No. 3 G. Jones, 3,558-35 feet, 50 bbls. per hour. Shell Petroleum Co. No. 30 G. W. Richey, 3,559-90 feet, 60 bbls. per hour. Sinclair Prairie No. 20 M. Lawson, 3,510-20 feet, 80 bbls. per hour. Sun Oil Co. No. 18 J. T. Ladden, 3,639-86 feet, 40 bbls. per hour Superior Oil Co. No. 24 Ingram, 3,555-95 feet, 152 bbls. per hour. Tide Water No. 23 A. Davis, 3,521-51 feet, 78 bbls. per hour; No. 10-B E. Nettleton, 3,474-92 feet, 60 bbls. per hour. E. L. Wilson No. 17 E. L. Walker, 3,561-67 feet, 24 bbls. per hour. Arcadia Refining Co. No. 8 Jeffrey, 3,760-61 feet, 20 bbls. pumped per hour. J. G. Beard No. 8 E. Muckleroy, 3,602-03 feet, 100 bbls. per hour. L. W. Callender No. 8 Rowland, 3,521-36 feet, 20 bbls. pumped per hour; No. 9 Rowland, 3,523-29 feet, 5 bbls. per hour. L. Glasscock No. 9-B Duncan, 3,572-75 feet, 50 bbls. per hour. Gulf Oil Corp. No. 19 B. Watson, 3,564-96 feet, 40 bbls per. hour. Hamil & Smith No. 1 Dickson, 3,549-80 feet, 50 bbls. per hour. T. L. James No. 13 Lacey, 3,528-60 feet, 65 bbls. per hour. Johnson & Owens No. 12-B M. T. Cole, 3,505-13 feet, 64 bbls. per hour. Jones & Jones and others No. 1 M. J. McNeely, 3,589-90 feet, 60 bbls. per hour. M. W. McVey No. 3 Dickson, 3,520-32 feet, 30 bbls. per hour. Magnolia Petroleum Co. No. 6 R. H. Rowland, 3,520-23 feet, 5 bbls. per hour. Midfield Oil Co. No. 2 Mitchell, 3,573-3,610 feet, 60 bbls. per hour. P. Miller No. 2-B B. Laird, 3,535-81 feet, 6½ bbls. per hour. Charles Pettit No. 3 Wizman, 3,524-34 feet, 30 bbls. per hour. Tom Patter No. 1 Compton, 3,548-55 feet, 40 bbls. per hour. Potter Brothers No. 2 J. M. Crane, 3,530-50 feet, 30 bbls. per hour. G. Pendergrast No. 7 D. Beall, 3,541-55 feet, 45 bbls. per hour. Stanolind and Tide Water No. 5-B Walker, 3,558-61 feet, 59 bbls. per hour. Sun Oil Co. No. 57 M. T. Cole, 3,520-67 feet, 65 bbls. per hour; No. 34 Holburn-Lloyd, 3,630-32 feet, 60 bbls. per hour. Vierson & Kingwood No. 11 G. & E. Muckleroy, 3,533-45 feet, 70 bbls. per hour.

Rusk County

B. G. Barnett No. 5 I.&G.N.R.R., 3,631-42 feet, 30 bbls. per hour. J. Berren No. 3 Brittain, 3,572-3,602 feet, 4 bbls. pumped per hour. Devonian-Gulf No. 41 R. A. Motley, 3,671-88 feet, 60 bbls. per hour. Gilium-Florey & Warren No. 1-A I. Brightwell, 3,617-18 feet, 55 bbls. per hour. Humble Oil & Refining Co. No. 11-A Sexton, 3,716-27 feet, 70 bbls. per hour. Navarro Oil Co. No. 26 Brightwell, 3,595-3,616 feet, 44 bbls. per hour. West Line Oil Co. No. 6 G. H. Morris, 3,642-43 feet, 45 bbls. per hour. Atlantic No. 47 I. Kinney, 3,576-3,621 feet, 40 bbls. per hour. Dearman & Ford No. 7 J. B. Rettig, 3,706-08 feet, dry and abandoned. Everetts Drilling Co. No. 9 F. Cole, 3,760-63 feet, 21 bbls. per hour. R. Haddaway and others No. 6 M. E. Church, 3,753-65 feet, 30 bbls. per hour. Haynes Oil Co. No. 20 C. Lee, 3,635-50 feet, 60 bbls. per hour. Humble Oil & Refining Co. No. 67-A M. & R. Kangerga, 3,650-60 feet, 55 bbls. per hour; No. 16-B M. & R. Kangerga, 3,630-37 feet, 60 bbls. per hour. McDonald & Campbell No. 5 Wheelis-Rusk, 3,750-80 feet, 65 bbls. per hour. Ohio Oil Co. No. 24 Clay Heirs, 3,567-71 feet, 30 bbls. per hour. Sinclair Prairie No. 7 Card, 3,576-95 feet, 40 bbls. per hour. Stanolind Oil & Gas No. 3 W. H. McCord, 3,569-3,674 feet, dry and abandoned. Sun Oil Co. No. 21 R. J. Hendon, 3,557-3,609 feet, 6 bbls. pumped per hour. Texas Trading Co. No. 4 Dr. Deason, 3,667-3,733 feet, 32 bbls. per hour. J. Zeppa No. 5 Minchew, 3,758-65 feet, 50 bbls. per hour.

Upshur County

H. W. Clarkston No. 7 E. O'Byrne, 3,652-67 feet, 37 bbls. per hour. General American No. 14 Sheppard, 3,638-3,702 feet, 80 bbls. per hour. Humble Oil & Refining Co. No. 36 Edwards, 3,665-68 feet, 48 bbls. per hour. E. C. Johnston & Dean No. 1 J. F. Miller, 3,748-52 feet, dry and abandoned. Magnolia Petroleum Co. No. 13 Blackwell, 3,643-58 feet, 60 bbls. per hour. Stanolind-Falcon No. 1-A C. Everett, 3,665-67 feet, 9 bbls. per hour; No. 13-B F. Williams, 3,697-3,703 feet, 20 bbls. per hour. Trico Oil Co. No. 3 J. W. Free, 3,642-47 feet, 40 bbls. per hour.

Central West Fields

(Continued from Page 84)

McLean County

Maxwell district: Ellis & Huff No. 1 R. C. and L. C. Yates, 50 bbls., Stray sand 944-59 feet, shot 60 quarts; No. 1 Mape York, location.

Knobs district: Cumberland Petroleum Co. and others No. 8 Elmer Nall, Barlow sand 1,537-47 feet, showing of oil, total depth 1,628 feet, abandoned. J. C. Miller, Trustee No. 4 George Bryant, dry hole, total depth 826 feet.

Island district: South Penn Oil Co. No. 2 J. K. and John Kirtley, 328 bbls., Jett sand 1,406-33 feet, shot 60 quarts, total depth 1,435 feet.

Cleopatra district: Hoosier Drilling Co. No. 3 Nannie Cook, rigging up.

Ohio County

Friendship Church district: A. Teller and others No. 1 A. H. Medcalf, east 81 acres, 25 bbls., Barlow sand 654-67 feet, shot 60 quarts.

Westerfield district: Jess Ellis and others No. 11 C. D. Westerfield, 4 bbls. in Jett sand, total depth 614 feet.

Taffy district: A. Schaffer and others No. 3 Russell, 4 bbls., Jett santi 504-17 feet, shot 40 quarts, abandoned.

Pleasant Ridge district: F. F. Gibson and others No. 2 R. L. Chapman, spudding in.

Narrows district: Nollem Oil & Gas Co. and others No. 1 A. and S. Phillips, 700,000 feet of gas, 185 pounds rock pressure, Jackson sand 519-44 feet. Nollem Oil & Gas Co. No. 3 Marshall Lloyd, drilling at 200 feet; No. 1 J. H. Coppage, drilling at 225 feet.

Webster County

Sebree district: Powell & Garrison No. 3 Rip Robards, 396,000 feet of gas, 368 pounds rock pressure, Thornsberry sand 822-27 feet.

Rocky Mountain Area

By T. R. INGRAM

LANCE CREEK, WYO., FIELD WILL BE OPERATED AS UNIT

DENVER, Colo., Dec. 6.—The Gulf Oil Corp. wildcat in Lincoln County, eastern Colorado, has begun coring into the Arbuckle and its fate soon will be known. There were no completions in Colorado.

The Sinclair-Wyoming Oil Co. No. 11-A Wertz, Carbon County, Wyoming, was completed in the Tensleep for 285 bbls. per day and the Ohio Oil Co. No. 1 Brimmer, Bunker Hill district, was dry and abandoned at 2,010 feet. The unit agreement for the Lance Creek field is about ready to be put into operation and construction of necessary facilities will begin at once. The Continental Oil Co. No. 8 Rohlff, on west flank of Lance Creek, will make a small well in the Minnelusa. The Mountain Fuel Supply Co. released locations for two important tests in Middle Baxter Basin; the Ohio Oil Co. will drill another well at Bunker Hill and the Sinclair-Wyoming Oil Co. has made another location on the Wertz dome.

Cut Bank field in Montana had no completions or new operations. The Cobb well in North Cut Bank, a wildcat, had 8,300,000 feet of gas in the Moulton sand. Kevin-Sunburst had two oil wells and one gas well completed and one new operation.

NEW MEXICO

Several southeastern New Mexico wells were showing as pool openers or extensioners the past week. Completions of the week included a Vacuum area extensioner and a big gasser in the area south of Jal.

Repollo Oil Co. No. 1 Cowden, NE cor. section 31-23-37, opened a new sand area 2 miles northwest of the Mattix sector of Lea County, but had not been completed. It was plugged back from 3,850 feet to 3,570 feet to shut off bottom-hole water. It was shot and flowed 50 bbls. of oil the first 16 hours through 2-inch tubing, and 55 bbls. the next 24 hours.

The north end of the Monument pool of Lea County was extended one-quarter mile west at Continental Oil Co. No. 1-A-7 State, C NE SE section 7-19-37. It flowed 8 bbls. of oil in two hours after a shot, with 310,000 feet of gas. It was bottomed at 4,046 feet, and testing was continuing.

Several Eddy County wells were showing as producers but had not been completed. Completions in Lea County included the following:

Texas Co. No. 1-L State, C SW NE section 1-18-34, which extended the Vacuum area 3 miles south, flowed 820 bbls. of oil naturally in 24 hours, through casing, with an estimated 3,000,000 feet of gas. Pay was topped at 4,297 feet, total depth 4,497 feet.

Stanolind Oil & Gas Co. No. 29-B Farnsworth, C SW NW section 7-26-37, south of Jal, had natural production of 34,000,000 feet of gas daily from pay at 2,730 feet, total depth 2,960 feet.

Anderson-Prichard Oil Corp. No. 3 Langlie, NE section 8-25-37, topped pay at 3,440 feet, total depth 2,479 feet, was shot and flowed 216 bbls. of oil through choke in 24 hours. Gas gauged 1,100,000 feet.

Continental Oil Co. No. 1-B-10 Britt, SW section 10-20-37, was acidized and shot and flowed 832 bbls. of oil through choke in 24 hours, plus 52 per cent water and with 802,000 feet of gas. Top of pay was 3,875 feet, total depth 3,921 feet.

Same company's No. 2-B-6 Elliott, C NW SE section 6-22-37, found pay at 3,735 feet, total depth 3,796 feet, was shot and flowed 504 bbls. of oil in 24 hours, through choke, with 750,000 feet of gas.

Continental Oil Co. No. 1-A-21 Jack, C SW SW section 21-24-37, had pay at 3,420 feet, was bottomed at 3,556 feet, was shot and rated at 840 bbls. of oil daily, based on six-hour test through choke. Gas volume averaged 2,000,000 feet.

Same company's No. 6 Sanderson, SE section 14-20-36, had natural flow of 384 bbls. of oil in 24 hours, with 310,000 feet of gas, from pay at 3,775 feet, total depth 3,870 ft.

Gulf Oil Corp. No. 1-B Stebbins, NE section 5-22-37, had pay at 3,685 feet, total depth 3,755 feet, was acidized and flowed 229 bbls. of oil daily, with 500,000 feet of gas.

Carl B. King No. 1 Stuart, NW SW SW section 11-25-37, was completed as a 432-bbl. natural well, accompanied by 400,000 feet of gas. Pay was found at 3,345 feet, total depth 3,409 feet.

Shell Petroleum Corp. No. 3 Black, SE SE SW section 21-24-37, topped pay at 3,508 feet, total depth 3,565 feet, flowed 306 bbls. of oil in 24 hours, naturally, with gas gauging 76,200 feet.

Skelly Oil Co. No. 3 Ellen Sims, SE section 3-23-37, was shot and flowed 16 bbls. of oil in 24 hours through choke from pay topped at 3,548 feet, total depth 3,675 feet. Gas volume was 100,000 feet.

Stanolind Oil & Gas Co. No. 10-A Gilluly, SE SE NE section 24-20-36, had pay at 3,800-65 feet, total depth, was acidized and flowed 552 bbls. of oil in 24 hours through choke, with 500,000 feet of gas.

Same company's No. 1 State, C SE SE section 2-21-36, flowed 89 bbls. of oil through tubing in 24 hours after acidizing. Top of pay was 3,710 feet, total depth 3,859 feet.

Texas Co. No. 2-B State, SE section 16-23-36, had pay at 3,566 feet, was bottomed at 3,860 feet, and flowed 1,320 bbls. of oil in 24 hours, naturally and through choke, with 2,000,000 feet of gas. Pay was found at 3,566 feet, total depth 3,700 feet.

Same companys No. 6 State C, NE section 19-20-37, topped pay at 3,720 feet, total depth 3,860 feet, was acidized and flowed 900 bbls. of oil in 24 hours through choke.

Lea County

Amerada Pet. Corp. No. 6 Byrd, SE sec. 12-20-36. Loc.
Amerada Pet. Corp. No. 2 Corrigan, C S½ SE NE sec. 4-22-37. Drlg. 2,635 ft.
Amerada Pet. Corp. No. 3 Laughlin, C NW NE sec. 9-20-37. T.D. 2,585 ft.; set 8-in. 2,573 ft.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-27-37. Drlg. 3,575 ft.
Anderson-Prichard Oil Corp. No. 2 Langlie, SE sec. 8-25-37. Drlg. 3,290 ft.
Atlantic Ref. Co. No. 1 Grizzell, C SE NE sec. 6-22-37. R.U.R.
Barnsdall Oil Co. No. 1 Whitten, NE NE NW sec. 4-24-36. Drlg. 895 ft.
Cities Service Oil Co. No. 8 Closson, C W½ NE sec. 6-22-36. Drlg. 2,850 ft.
Cities Service Oil Co. No. 1-H State, C NE NE sec. 17-22-36. T.D. 3,884 ft.; prep. to deepen.
Cities Service Oil Co. No. 1-A Closson, C NE NE sec. 18-22-36. Wildcat; T.D. 3,559 ft.; fsg.
Continental Oil Co. No. 3-B-6 Elliott, C SE SE sec. 6-22-37. T.D. 3,778 ft.; drk. burned; trying to kill well.
Continental Oil Co. No. 3-B-31 Lockhart, SE sec. 31-21-36. T.D. 3,924 ft.; flwd. 22 B.O.P.H.; tstg.
Continental Oil Co. No. 2-B-24 Reed, SW sec. 24-20-36. T.D. 3,766 ft.; W.O.C.
Continental Oil Co. No. 3-B-24 Reed, SW sec. 24-20-36. R.U.R.
Continental Oil Co. No. 1-A-7 State, SE sec. 7-19-37. T.D. 4,046 ft.; tstg.
Continental Oil Co. No. 2-E-17 State, C NE SE sec. 17-22-36. Drlg. 2,250 ft.
Continental Oil Co. No. 6-A-17 State, C NW NE sec. 17-19-37. T.D. 3,762 ft.; S.D. for fuel.
Cranfill & Germany No. 1 Weir, C NE NE sec. 15-20-37. T.D. 4,210 ft.; S.D.O.
Culbertson & Irwin No. 1 Alston, NW cor. sec. 26-25-37. Drlg. 2,210 ft.
Culbertson & Irwin No. 4-A Humphrey, NE SE NW sec. 3-25-37. R.U.S.T.
Culbertson & Irwin No. 5-A Humphrey, NE NW SE sec. 3-25-37. Cellar, pits.
Culbertson & Irwin No. 7-A Humphrey, NE SW SE sec. 3-25-37. Loc.
Culbertson & Irwin No. 1 Liberty Royalty, NW sec. 3-25-37. Loc.
Eastland Oil Co. No. 1 Waldrop, C SE SE sec. 1-20-38. T.D. 1,750 ft.; set 9-in. 1,686 ft.
L. E. Elliott No. 1 Elliott, NE NE SE sec. 26-20-36. R.U.S.T.
Emperor Oil Co. No. 1 Johns, C SW NW sec. 24-17-32. Drlg. 4,360 ft.
Empire O. & R. Co. No. 1-G State, sec. 2-21-36. T.D. 3,900 ft.; S.D.
Empire O. & R. Co. No. 2-B State, C SE SW sec. 2-21-37. Drlg. 3,850 ft.
J. E. Farrell No. 2-C Walden, C SE SW sec. 15-22-37. Drlg. 3,665 ft.
Great Western Prod. Co. No. 1 State, C SE SE sec. 16-26-37. O.W.D.D.; T.D. 3,315 ft.; S.I.
Gulf Oil Corp. No. 1 Boyd, sec. 23-22-37. T.D. 3,681 ft.; tstg.
Gulf Oil Corp. No. 2 Cole, C NE NE sec. 16-22-37. T.D. 1,141 ft.; S.D.
Gulf Oil Corp. No. 1 Elliott, SW SE SE sec. 15-25-37. Drlg. 3,380 ft.
Gulf Oil Corp. No. 2 Kyte, SE sec. 7-19-37. Spd.
Gulf Oil Corp. No. 1-E Janda-State, NE NW NE sec. 21-23-36. T.D. 3,710 ft.; flwd. 75 B.O. in 4 hrs.; tstg.
Gulf Oil Corp. No. 1 LeMunyon, C NE NE sec. 28-23-37. Old well; drlg. 3,241 ft.
Gulf Oil Corp. No. 2-B Stebbins, C NW NE sec. 5-22-37. T.D. 270 ft.; W.O.C.
Gulf Oil Corp. No. 1 Felton, C SE SE sec. 28-21-36. T.D. 3,885 ft.; flwd. 436 B.O. in 21 hrs.; tstg.
Gulf Oil Corp. No. 3 Stuart, C SE NE sec. 10-25-37. Drlg. 2,405 ft.
Gulf Oil Corp. No. 1-B White, SE sec. 35-20-36. Drlg. 870 ft.
Herschback Oil Co. No. 1 Burleson, C E½ NE NW sec. 8-25-37. T.D. 2,770 ft.; W.O.C.
Humble O. & R. Co. No. 3 Williams, C SW NW sec. 34-24-37. T.D. 3,532 ft.
Humble O. & R. Co. No. 3 Fopeano, C SW SW sec. 25-20-36. T.D. 3,855 ft.; W.O.C.
Humble O. & R. Co. No. 1-H State, SW sec. 27-22-37. Cellar, pits.
Jal Nat. Gas Corp. No. 2 Justis, NE sec. 20-25-37. T.D. 3,029 ft.; tstg.
Landreth Prod. Co. No. 2 Grizzell. C SW NE sec. 8-22-37. Drlg. 3,427 ft.
Harry Leonard No. 4 Lanehard, SW NW NE sec. 21-25-37. Drlg. 1,485 ft.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 34-17-34. T.D. 4,905 ft.; P.B. 4,794 ft.
Magnolia Pet. Co. No. 2 State-Bridges, sec. 14-17-34. T.D. 4,593 ft.; flw. 51 B.O. in 1 hr., naturally.
Magnolia Pet. Co. No. 3 State-Bridges, C NW SW sec. 23-17-34. T.D. 1,473 ft.; S.D.
J. A. Mascho No. 1 Cloyd, C SE SE sec. 20-22-33. Wildcat; T.D. 3,523 ft.; S.D. for csg.
McDowell & Weiner No. 1 Elliott, SE cor. sec. 19-21-37. T.D. 3,778 ft.; swbg. 25 B.O.P.D.; to shoot.
C. T. McLaughlin No. 1 Polhamus, NE sec. 9-24-37. Drlg. 3,467 ft.
C. T. McLaughlin No. 1 Imperial Royalties, NW SE NW sec. 9-24-37. T.D. 30 ft.; S.D.
Mid-Continent Pet. Corp. No. 2 Boren, C SE NE sec. 20-22-36. T.D. 3,852 ft.; flwd. 40 B.O.P.D.; tstg.
National Drlg. & Prod. Co. No. 1 Flint, C NE NE sec. 29-20-34. Wildcat; drlg. 3,653 ft.
Ohio Oil Co. No. 2 Grizzell, C NW SE sec. 5-22-37. T.D. 600 ft.; prep. to drill in.
Ohio Oil Co. No. 1 Hardy, NE NE SE sec. 20-21-37. Drlg. 3,612 ft.
Ohio Oil Co. No. 1 Kutter D, C SW SW sec. 18-19-37. Drlg. 3,535 ft.
Ohio Oil Co. No. 7 State-McDonald, C SW SE sec. 16-22-36. T.D. 3,871 ft.; C.O.
Lem Peters No. 1 Graham, sec. 27-22-37. T.D. 1,118 ft.; fsg.
Plains Prod. Co. No. 1 Humphreys, NE sec. 3-25-37. Loc.
Plains Prod. Co. No. 2 Moseley, SW NE SE sec. 34-24-37. Mach.
Plains Prod. Co. No. 1 Stuart, NE SW SW sec. 10-25-37. T.D. 3,420 ft.; swbg.
Repollo Oil Co. No. 1 Powhatan Carter, SW SW NE sec. 9-24-37. Drlg. 3,106 ft.
Repollo Oil Co. No. 3 Christmas, NW NW NE sec. 28-22-37. T.D. 1,650 ft.; fsg.
Repollo Oil Co. No. 1 Cowden, NE cor. sec. 31-23-37. T.D. 3,850 ft.; P.B. 3,570 ft.; flwd. 50 B.O. in 16 hrs.
Repollo Oil Co. No. 3 Moseley, SW sec. 34-24-37. Drlg. 3,016 ft.
Repollo Oil Co. No. 4 Roach, NW NW SW sec. 21-20-37. T.D. 3,875 ft.; P.B. 3,860 ft.; shot; R.U.S.T.; to C.O.
Repollo Oil Co. No. 1-B State, NE NE NW sec. 7-22-36. Drlg. 3,085 ft.
Repollo Oil Co. No. 1 Turner, sec. 29-21-37. T.D. 3,640 ft.; set 6-in. 3,635 ft.
Repollo Oil Co. No. 2 White, SE sec. 24-20-36. Cellar and pits.
Repollo Oil Co. No. 2-B Whitten, NE cor. sec. 4-24-36. T.D. 335 ft.; rmg.
Rowan Drlg. Co. No. 2 Elliott B, C NW NW sec. 9-22-37. Drlg. 3,472 ft.
Rowan Drlg. Co. No. 2-A Elliott, C NE SW sec. 27-22-37. Drk.
Samedan Oil Co. No. 4 Hughes, C NW SE sec. 10-23-37. T.D. 3,603 ft.; swb. 14 B.O. in 8 hrs.
Shell Pet. Corp. and Devonian Oil Co. No. 3 Christmas, C SW NE sec. 21-22-36. T.D. 3,855 ft.; P.B. 3,840 ft.; C.O.
Shell Pet. Corp. No. 2-L Endura-State, NE SE SE sec. 1-21-35. Drlg. 2,845 ft.
Shell Pet. Corp. No. 4-E State, C SW NW sec. 12-20-36. Drlg. 3,777 ft.
Shell Pet. Corp. No. 3-J State, SE cor. sec. 32-20-37. Drlg. 2,360 ft.
Skelly Oil Co. No. 1-J State, C NE NW sec. 31-17-35. T.D. 1,540 ft.; set 10-in. 1,530 ft.
Skelly Oil Co. No. 5 J. B. Baker, C SE NW sec. 27-22-37. T.D. 3,620 ft.; tstg.
Skelly Oil Co. No. 1 Combest, NW NW SE sec. 27-23-36. T.D. 3,918 ft.; swbg.
Skelly Oil Co. No. 1 E. T. Johns, SW sec. 21-24-37. T.D. 3,180 ft.; R.U.S.T.
Skelly Oil Co. No. 2 Mon-State, C NE SE sec. 13-19-36. T.D. 4,050 ft.; to core ahead.
Skelly Oil Co. No. 3 G. W. Sims, C NW NE sec. 9-23-37. T.D. 3,642 ft.; C.O.
Skelly Oil Co. No. 1-C R. R. Sims, sec. 3-23-37. Drlg. 3,622 ft.

Skelly Oil Co. No. 1-E W. P. Sims, C NW NE sec. 10-23-37. T.D. 3,625 ft.; flw. 452 bbls. in 24 hrs.
Skelly Oil Co. No. 2 W. P. Sims, C SE NE sec. 10-23-37. T.D. 3,650 ft.; C.O.
Southern Pet. Exploitation Co. No. 1 Downes, SW sec. 32-21-37. Drk.
Stanolind O. & G. Co. No. 2-A Langlie, C NW SW sec. 9-25-37. T.D. 3,463 ft.; swb. 48 B.O. in 8 hrs.; waiting on machine.
Stanolind O. & G. Co. No. 1-A Hill, C NW SE sec. 6-21-37. T.D. 2,273 ft.; S.D.
Stanolind O. & G. Co. No. 1-B Hill, NE sec. 6-21-37. T.D. 3,810 ft.; testing.
Stanolind O. & G. Co. No. 2-B Langlie, C NW NW sec. 15-25-37. T.D. 3,458 ft.; P.B. 3,147 ft.; S.I.
Stanolind O. & G. Co. No. 2-A Myers, C SW SW sec. 15-24-37. Drk.
Stanolind O. & G. Co. No. 3-A Myers, C SW SE sec. 22-24-37. T.D. 3,580 ft.; flwd. 89 B.O. in 24 hrs.; C.O.
Stanolind O. & G. Co. No. 1 Thompson, NE sec. 6-21-27. Drlg. 2,855 ft.
W. H. Street No. 3 Woods, C NW NE sec. 22-22-37. T.D. 1,120 ft.; S.D.
Sun Oil Co. No. 2 Lanehart, C NE SE sec. 20-25-37. Drlg. 2,339 ft.
Texas Co. No. 1 American National, C NE NW sec. 18-19-37. Drlg. 3,035 ft.
Texas Co. No. 2-B Cagle, SW sec. 15-26-37. Cellar, pits.
Texas Co. No. 2 Fristoe, NW NE NE sec. 3-25-37. T.D. 3,250 ft.; running csg.
Texas Co. No. 3 Falvy, C NW NW sec. 8-22-37. Drlg. 3,648 ft.
Texas Co. No. 1-M State, NW sec. 1-18-34. Loc.
Two States Oil Co. No. 1 Morris, SW SE SE sec. 21-18-38. T.D. 4,244 ft.; swb. 40 B.O. in 1 hr.; S.I.
Western Gas Co. No. 1 Cowden, SE cor. sec. 30-23-37. Drlg. 1,130 ft.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 3,890 ft.; C.O.

Eddy County

F. E. Baker No. 1 Eddy, NE sec. 12-22-27. T.D. 845 ft.; S.D.
Barnett Oil Dev. Co. No. 1 King Permit, C NW SE sec. 23-26-30. R.U. and S.D.
Fred Brainerd No. 2 Brainerd, sec. 5-18-37. T.D. 1,824 ft.; shot; flwd. 25 B.O.P.D.; tstg.
Ed Bryant No. 1 Stebbins, C NE SW sec. 19-20-29. T.D. 1,000 ft.; S.D.O.
Carper Drlg. Co. No. 2 Gissler, SW SE NW sec. 23-17-30. T.D. 3,688 ft. . prep. squeeze job.
Danciger O. & R. Co. No. 3 Turner, SW NE SW sec. 18-17-31. Drlg. 3,190 ft.
D. & B. Oil Co. No. 2 Jenkins, SW NW NW sec. 20-17-30. Drlg. 2,500 ft.
Emperor Oil Co. No. 3 Puckett, C NE NW sec. 24-17-31. T.D. 3,908 ft.; F. 60 B.O.P.D.; 1,500,000 ft. gas.
Etz Bros. No. 4 State, C S½ SE SE sec. 16-17-30. Drlg. 2,630 ft.
Finley & Cherry No. 1 Buchley, C NW NW sec. 28-16-31. Wildcat: T.D. 4,080 ft.; S.D.
Flint Prod. Co. No. 1-B State, SE sec. 20-17-30. Drlg. 3,800 ft.
Franklin Pet. Corp. No. 1 McIntyre, NE NW SW sec. 20-17-30. T.D. 2,662 ft.; S.D.
C. J. Frederick No. 1 Reed, C NE SW sec. 28-24-28. T.D. 888 ft.; S.D.
F. W. & Y. Oil Co. No. 6-A Gissler NE sec. 23-17-30. Drlg. 3,400 ft.; F. 120 B.O. in 7 hrs
F. W. & Y. Oil Co. No. 7-A Gissler NE sec. 23-17-30. T.D. 3,480 ft.; F. 50 B.O.P.D.; tstg.
F. W. & Y. Oil Co. No. 1-B Gissler, SW sec. 15-17-30. T.D. 502 ft.; W.O.C.
F. W. & Y. Oil Co. No. 2-B Gissler, C NW NW sec. 24-17-30. Preparing to spud.
F. W. & Y. Oil Co. No. 3 Jackson C NW SE sec. 13-17-30. T.D. 2,953 ft.; fsg.
Geo. F. Getty, Inc., No. 1-E State, NE SW SW sec. 16-17-31. Drlg. 2,655 ft.
Grayburg Oil Co. No. 9 Burch, SW NE NE sec. 19-17-30. Drlg. 3,047 ft.
Grayburg Oil Co. No. 10 Burch SE NE NE sec. 19-17-30. Drlg. 1,450 ft.
Grayburg Oil Co. No. 4 Keely, SE sec. 24-17-9. Cellar and pits.
M. A. Grisham No. 1 Chaytor, NE sec. 10-24-26. Drlg. 1,768 ft.
H. A. Hartwell No. 1 Vandagrift, NE NE SE sec. 8-18-27. R.U. machine.
R. L. Holcomb No. 1 State, NW sec. 22-17-28. T.D. 455 ft.; S.D.
Woodworth Hawkins No. 1 Muck, C SW SW sec. 20-24-27. T.D. 502 ft.; S.D.
C. F. Ingram No. 1 Page, NE NE SW sec. 15-21-28. T.D. 1,310 ft.; S.D.O.
Nash-Windfohr & Brown No 4-A Jackson, NE sec. 13-17-30. T.D. 3,541 ft.; acid. and swb. 32 B.O.P.D.
Nash-Windfohr & Brown No 5-A Jackson, NE sec. 13-17-30. T.D. 3,511 ft.; F. 35 B.O.P.D.; tstg.
Nash-Windfohr & Brown No. 6-A Jackson, SE sec. 13-17-30. Drlg. 3,340 ft.
Nash-Windfohr & Brown No. 7-A Jackson, SE sec. 13-17-30. Drlg. 3,430 ft.
Nash-Windfohr & Brown No. 2-B Stevens, NW sec. 13-17-30. Rig.
W. A. Nichols No. 1 Johnson, NE sec. 35-16-21. Wildcat; drlg. 3,776 ft.; est. 40 B.O.P.D.
Red Gulch Oil Co. No. 1 State, C S½ SE SE sec. 4-17-28. Drlg. 1,020 ft.
Red Lake Oil Co. No. 1 Williams, C SW NW sec. 21-17-28. Drlg. 775 ft.
Repollo Oil Co. No. 3-D McIntyre, SE cor. sec. 17-17-30. Drlg. 260 ft.
Repollo Oil Co. No. 1-A Parke, NW NE NE sec. 22-17-30. Drlg. 1,885 ft.
Repollo Oil Co. No. 2 West, SW SE SE sec. 9-17-31. Drlg. 3,060 ft.
Paul Sargent No. 1 State, NE sec. 16-17-31. T.D. 3,749 ft.; P.B. 3,745 ft.; tstg.
R. A. Shugart No. 1 Coulthard, C NW SW sec. 35-18-31. Drlg. 3,610 ft.; swb. 40 B.O.P.D.
W. K. Royalty No. 2 State, C NE NW sec. 16-17-31. Cellar.
W. O. Snyder No. 1 Pecos Irrigation, C NE SE sec. 15-25-28. Drlg. 2,767 ft.

Chaves County

English & Hamon No. 11 Billingslea, SE sec. 9-15-29. T.D. 3,654 ft.; 3,300 ft. wtr.; S.D.O.
E. J. Fisher No. 1 Etz Permit, NE sec. 23-7s-26. Drlg. 335 ft.
Mathieson et al No. 1 Cole, C NE NW sec. 19-15-27. Drlg. 898 ft.

Curry County

Bond & Harrison No. 1 Hart ranch, C NW SE sec. 13-2n-31. T.D. 3,258 ft.; S.D.O.

De Baca County

Land Owners Oil Co. No. 1 McAdoo, SW cor. sec. 16-1s-27e. O.W. prep. to deepen from 5,850 ft.

Dona Ana County

Juels C. Bertrand No. 1 Casad Permit, sec. 24-26-5e. T.D. 47 ft.; S.D.O.

McKinley County

S. Dysart No. 1 Govt., NE sec. 14-14-10w. T.D. 1,390 ft.; fsg.

Otero County

George Mulvey No. 1 State, SW cor. sec. 11-25-8. T.D. 263 ft.; S.D.
Fred Turner, Jr., No. 1 Ella Everett, C SE SE sec. 34-22-13. Spd. and S.D.
Fred Turner, Jr., No. 1 H. V. Everett, C SE SE sec. 28-22-13. Loc.

Roosevelt County

C. S. Peterson and Conquistadores Oil Co. No. 1 Good, NW SE SE sec. 28-5s-30. Drlg. 360 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. S.D. 3,750 ft. for csg.

McKinley County

Guarantee Oil Co. No. 1 fee, NW NW NW sec. 31-20n-9w. S.D. 327 ft.
S. Dysart et al No. 1 Bouton, CEL NW NE sec. 14-14n-10w. T.D. 1,390 ft.; re-ran 12½-in. to 1,320 ft. and S.D.
Bill Forth No. 1 Comanche, C NW SE sec. 29-20n-10w. Drlg. 200 ft.; (first report).

San Juan County

The Continental Oil Co. No. 66 Rattlesnake, SE NW NE section 2-29n-19w, Rattlesnake field, was completed in the Dakota at 857 feet for 40 barrels per day.

Continental Oil Co. No. 68 Rattlesnake, NW NW SE sec. 2-29n-19w. M.I.M.; (first report).
C. E. Brawley No. 1 Godrun, C SE SW sec. 34-30n-11w. Loc.; (first report).
Continental Oil Co. No. 67 Rattlesnake, C SE sec. 2-29-19w. S.D. 430 ft.; repairs.
Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. Drlg. below 1,000 ft.

Socorro County

Central New Mexico Oil Co. No. 1 Brown, SE NW sec. 16-3n-1e. Drlg. 1,600 ft.

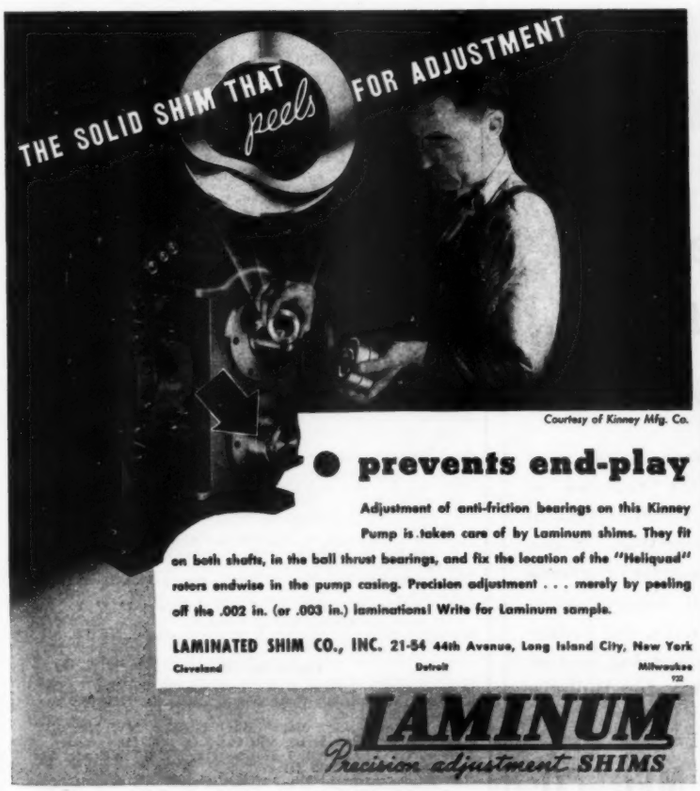
Valencia County

C. A. Brober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. S.D. 900 ft.; chge. to rotary.
Big Three Oil Co. No. 1 Dalles Townsite, SE SE NW sec. 5-6n-1e. T.D. 6,114 ft.; cmtd. 4-in. lnr. at 5,974 ft.; W.O.C.

COLORADO

Adams County

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66w. Drlg. 4,650 ft.



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W. S. DICKEY CLAY MFG. CO.
KANSAS CITY, MO.

Glenrige Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. S.D. 4,345 ft.

Archuleta County

Prospect Oil Synd. No. 2 Lena M. Garnett, NW SW NE sec. 13-33n-2e. Drlg. 790 ft.; base gravel 490 ft.; set 10-in. 492 ft.

Boulder County

J. B. Furstenberg No. 1 Foote, SE sec. 20-1n-70w. Drlg. 2,825 ft. in Hygiene.
Boulder Prod. & Ref. Co. No. 11 Harlow Est., SE NE sec. 36-2n-71w. S.D.O. 765 ft.; dry in Muddy.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE sec. 36-7s-88w. Drlg. sh.&L. 705 ft.; not yet in Big. L.

Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69w. T.D. 3,550 ft.; cmtg. caves.
S. W. Pressey No. 2 Alamo, C SW SE sec. 3-27n-68w. Setting csg. at 450 ft.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW sec. 11-2n-81w. T.D. 2,300 ft.; laying wtr. line.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal, NW NW sec. 18-9n-78w. S.D. 3,015 ft.

LaPlata County

N. Spatter No. 1 Bryce, SE SW SW sec. 31-33n-9w. Drlg. below 1,000 ft.; 10-in. at 802 ft.

Larimer County

Great West O. & G. Corp. No. 1 Haworth, C SW SE sec. 16-4n-69w. T.D. 3,880 ft.; P.B. to 3,865 ft.; set 6¼-in. 3,823 ft.; will run lnr. and P.O.P.

Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61w. Drlg. 2,100 ft.; O.W.D.D. from 1,816 ft.

Lincoln County

Consolidated Smelting & Metals Corp. No. 1 Hancock, NE NE SW sec. 7-17s-52w. T.D. 2,860 ft.; fsg.; parted 8¼-in.
Gulf Oil Corp. No. 1 Smith, C SW SE sec. 19-15s-53w. Top Arbuckle 6,843 ft.; cg. ahead.

Logan County

Transylvania Dev. Co. No. 1 Sheldon, SE NW SE sec. 3-10n-55w. Drk. up; (cor. loc.).

Mesa County

Midwest Drlg. & Dev. Co. No. 1 Callahan, NE NW SE sec. 30-8s-97w. T.D. 3,337 ft.; fsg.; incr. in S.G. and brownish-green oil; installed new line and prep. to go to Dakotas.

Continental Oil Co. et al No. 1 Miller, SW SW NW sec. 36-8s-91w. Cmtd. 13⅜-in. at 630 ft. with 480 sacks and S.D. for winter.

Moffat County

Morapas Pet. Co. No. 1 Coles, SW SW SE sec. 1-3n-92w. T.D. 2,670 ft.; U.R. 10-in. from 1,483 to 1,758 ft.
Kerr-Lynn Drlg. Co. No. 1 Denise, C SE SE sec. 19-9n-99w. T.D. 3,007 ft.; still in Wasatch; pulled 10-in. 1,355 ft.; 12½-in. in hole and S.D. for winter.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW sec. 31-36n-17w. T.D. 3,830 ft.; rmg. at 3,790 ft. to test; 4¾-in. on bttm.; making about 3 B.P.D. 45-grav. oil; 830 ft. in Penn.

Park County

South Park Oil Co. No. 1 State, SE SE SW sec. 16-11s-75w. S.D. 5,705 ft. for winter.
South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75w. Drlg. 5,420 ft.

Pitkin County

Glenco Dev. Co. No. 1 Govt., NW cor. sec. 9-10s-89w. Drlg. in Mancos 1,950 ft.

Pueblo County

Ed Solomon No. 1 Smith, E½ sec. 11-21s-60w. Bldg. rig.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW sec. 16-1n-91w. S.D. 2,135 ft.; M.I. 8¼-in.
Texas Co. and California Co. No. 1 Unit, SW SE NW sec. 35-3n-94w. Drlg. gr. and blue sh. 6,570 ft.

Routt County

Major Oil Reserve No. 1 State, SW NW sec. 17-6n-86w. Bldg. rig.
Craig & Moore No. 1 Erwin, C SW NE sec. 33-7n-85w. R.U.C.T.; will spud.

WYOMING

Albany County

Murphy Oil Co. No. 11 Holst, NE SW NE sec. 13-17n-77w. Drlg. gr. sh. and shells 1,950 ft.
Wyco Oil Co., Inc., No. 3 Chappel, NE NE NW sec. 33-21n-76w. Drlg. 1,625 ft.; gas in Wall Creek 685-711 ft. not tstd.
Ohio Oil Co. No. 2 Griffin, SW SE SW sec. 2-21n-77w. Drlg. r.b. 2,736 ft.
Murphy Oil Co. No. 2 Holst-Woolf, NE NW NW sec. 19-17n-76w. Drlg. gr. sh. and bentonite 3,034 ft.

Big Horn County

Ohio Oil Co. No. 3 Sidon Canal, NW SW (Lot 40), sec. 24-56n-97w. Loc.; W.O. rig.
Joan Oil Co. No. 1 Howell, sec. 32-55n-97w (Lot 63). S.D. 2,150 ft. for 10-in.
Peay Oil Co. No. 1 Denio, Tr. 43-C, sec. 15-55n-97w. S.D. 3,930 ft.

Campbell County

Powder River O. & G. Co. No. 1 Rhodes, NE SE SW sec. 24-49n-74w. S.D. 650 ft.

Carbon County

The Sinclair-Wyoming Oil Co. No. 11-A Wertz, SE NW NW section 7-26n-89w, on the Wertz dome, made 285 bbls. per day from the Tensleep at a total depth of 5,987 feet while cleaning out and is expected to do a little better. It had the top of the Tensleep at 5,974 feet and set the 7-inch at 5,920 feet. It is a northwest offset to the same company's No. 10-A Wertz, which last year was completed in the Tensleep at 5,863-83 feet for 1,850 bbls. per day. Location has been made to the east of the new well in section 7. Footage is not yet available.

The Ohio Oil Co. No. 1 C. A. Brimmer, SE SE SE section 32-27n-89w, Bunker Hill area, was dry and abandoned at 2,010 feet. It had water in the lower part of the Shannon gas sand at 1,690-1,741 feet. Location is about a mile to the southeast of same company's No. 1 Wyoming Oil & Gas, which was completed a few months ago as a discovery in the Shannon at 1,224-1,480 feet for 5,000,000 feet of gas per day. It is moving in materials for No. 1 G. E. Brimmer, C SW SE section 32, about one-third of a mile west of the dry hole.

Location for Ohio-California No. 4-A Kyle at Big Medicine Bow is corrected. It is a north offset to No. 1-A Kyle, the discovery well.

Ohio Oil Co. No. 1 C. E. Brimmer, C SW SE sec. 32-27n-89w. M.I.M.; (first report).
Ohio Oil Co.-California Co. No. 4-A Kyle, 661 ft. from N line and 648 ft. from E line, sec. 26-21n-79w. M.I.M.; (cor. loc.).
Ohio Oil Co. No. 13 Harrison & Cooper, SW SE SW sec. 35-20n-78w. Drlg. 2,285 ft.
Ohio Oil Co. No. 2 Union Pacific, SW SW SE sec. 17-21n-80w. Drlg. 2,186 ft.
Ohio Oil Co.-California Co. No. 4-B Kyle, C SW SW sec. 24-21n-79w. W.O. rig.
Ohio Oil Co.-California Co. No. 6 Union Pacific-Johnson, C SW SE sec. 23-21n-79w. Cmtd. 12½-in. at 610 ft.; drlg. plug.
Producers Oil Co. No. 1, CNL sec. 14-20s-88w. Drlg 194 ft.
Ohio Oil Co.-California Co. No. 5 Cronberg-U. P., C NW NW sec. 25-21-79w. S.D.O. 5,765 ft.
Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78w. S.D. 2,347 ft.

Converse County

D. D. Gray No. 1 Lane, SW SE SE sec. 22-32n-69w. M.I.M.
Kaufman & Quinlan Bros. No. 1 Lane, SE NW NE sec. 27-32n-69w. Loc.
John T. Coffee, Jr., No. 1 Mary Gasper, NW NW SW sec. 25-32n-69w. Drlg. 400 ft.; S.O. 390 ft.
Ainsworth Oil Co. No. 1 Marberger, NE SE NE sec. 34-32n-69w. Drlg. 395 ft.
Hall-Thornton et al No. 1 Roth, C NW SE sec. 13-32n-69w. S.D. 467 ft. repairs; 8¼-in. at 397 ft.
Wyoming Southern Oil Co. No. 1 Lane, C NW NE sec. 27-32n-69w. Spd. and S.D.
Elbe Oil Ld. & Dev. Co. No. 1 Benham, NW NE sec. 5-31-70w. M.I.M.
Tom Carney No. 1 Beaver, SE SE SW sec. 28-35n-68w. Some material on loc.

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28-40 Penn Avenue Pittsburgh, Pa.

New Era Fuel Co. No. 1 Jones, SE SE SE sec. 21-32n-69w. Set 8¼-in. on bttm. at 747 ft.; S.O.
Chadron-Osage Oil Co. No. 1 State, SW cor. sec. 16-32n-69w. T.D. 4,060 ft.; cmtd. 8¼-in. at 4,040 ft.; W.O.C.
Wyoming-Southern Oil Co. No. 3 Salisbury, NE NE SE sec. 27-32n-69w. T.D. 617 ft.; rng. 5⅛-in. for W.S.O.

Fremont County

Sinclair-Wyoming Oil Co. No. 2-B Muskrat, NW NW NE sec. 4-35n-92w. Drlg. 765 ft.; 20-in. cmtd. 56 ft.; (cor. loc.).
Stanolind O. & G. Co. No. 1 Govt., C SE SE sec. 3-33n-96w. S.D. 5,124 ft. for mud pmp. reprs.
Consolidated Oil Properties No. 3, C SW SE sec. 16-1n-1w. Drlg. L. 220 ft.
H. Kenyon Burch No. 1 Enos, CEL NE NE sec. 28-3n-1w. S.D.O. 970 ft.; no shows.
Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. S.D. 875 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. Drlg. 3,216 ft.; carrying 4¾-in.

Hot Springs County

Italo Pet. Corp. No. 1 Phebus-Govt., NW NW SW sec. 11-44n-98w. Drlg. 2,950 ft.
Oscar B. Grace No. 4 Govt., CNL SE NW sec. 21-43n-92w. T.D. 380 ft.; fsg. bailer.
J. W. Bales No. 1 Govt., CWL SE SW sec. 28-43n-93w. M.I.M. for test to Madison in Red Springs dist.

Lincoln County

H. M. Eller et al No. 4 Govt., SE NW SW sec. 32-19n-116w. T.D. 401 ft.; will test S.O. in lenticular sd. at 397-401 ft.
Place Oil Co. No. 1 Davis, SE SE SE sec. 9-26n-11w. Drlg. 1,250 ft.

Natrona County

Stanolind O. & G. Co. No. 11 Wyo. Asso. Tensleep, C NE NW sec. 35-40n-79w. T.D. 4,043 ft.; cmtd. 6⅝-in. at 4,032 ft.; tstg.
Stanolind O. & G. Co. No. 29 Wyo. Asso.-Tensleep, C SW SW sec. 26-40n-79w. T.D. 4,100 ft.; cmtd. 6⅝-in. at 4,099 ft.; tearing down drk. and prep. to perf.
General Pet. Corp. No. 1 Govt., C NW SE sec. 21-35n-77w. Drlg. 4,514 ft.
Western Producers, Inc., No. 1 Govt., NW SW SE sec. 5-39n-78w. Drlg. 1,012 ft.
Stanolind O. & G. Co. No. 11 Wyo. Asso.-T.P.-35, C NE SW sec. 35-40n-79w. Cg. second W.C. at 1,523 ft.
Stanolind O. & G. Co. No. 8 T.P.-Wyo.-Asso.-35, C NW NW sec. 35-40n-79w. Bldg. transformer; will use power from Salt Creek hydro-elect. plant.

Niobrara County

Arrangements for putting into effect the unit agreement for the operation of the Sundance horizon in Lance Creek are under way and while 60 days are allowed for completion of preliminary work, it is planned to have it finished in about six weeks. The agreement has been signed by the Ohio Oil Co., the Continental Oil Co., the Argo Oil Co., and the Buck Creek Oil Co. All of the royalty interests with one or two exceptions have placed their signatures to the agreement, a sufficient number to make it effective, and it is in Washington for the approval of the secretary of the interior. It was hoped that the agreement would become effective as of December 1, but minor routine matters held it up at the last moment and it probably will be made effective as of January 1, 1938.

In the meantime there will be no delay in making the necessary preparations. It is expected that contracts will be signed within the next few days for the construction of the compressor plant with which to pressure the field. A committee is in the field to select the site. This plant will cost approximately $120,000. Pipe lines and connections for the wells will cost about $10,000 additional, and the construction of buildings for employes and the hooking up of wells will bring the total up to about $150,000.

Four wells on top of the dome will be made into key wells for pressuring the sand. The wells selected tentatively are the Ohio Oil Co. No. 5 Converse Sheep, C SE SW section 32-36n-65w; the Buck Creek Oil Co. No. 3-A Schuricht, C SW NW section 5-35n-65w; the Continental Oil Co. No. 6 Otto Rohiff, C SW SW section 32-36n-65w, and the Argo Oil Co. No. 5 Elliott, C NW NW section 5-35n-65w. The Ohio company has begun the reconditioning of No. 5 Converse Sheep. This is the famous "mystery" well on top of the dome which was drilled down to the Minnelusa and plugged back to the Sundance.

The Sundance horizon is practically drilled up, except that the Continental company may drill two additional wells at its own expense to bring certain acreage under the agreement. There may be one or two more to be drilled under the agreement in which event the cost will be divided. While the unit agreement at present is confined to the Sundance horizon, it gives leeway for bringing the deeper horizons within its scope. Preliminary work on this plan is now getting under way. The Minnelusa pay in the Pennsylvanian extends over a larger area than the Sundance horizon, but its limits have not been determined. It is probable that four or five wells out on the flanks will be drilled to determine the Minnelusa productive area within the unitized area. Until more data is available upon which to work out the details, it is not likely that the wells already completed in the Minnelusa will be produced. Offsetting of Minnelusa sand wells is not desired by the operators and it is hoped that such a campaign can be avoided.

The J. M. Huber Corp., which operates a carbon black plant on gas from Lance Creek, is reported to have given notice that its plant will be shut down. It has been running 6,000,000 to 8,000,000 feet a day. This gas will be needed for pressuring the Sundance wells, but until the compression plant is completed, there may be a waste of this gas.

The proration committee at its meeting in Casper set allowable for December at 8,200 bbls. per day for the field. During November runs amounted to around 12,000 bbls. per day. Operations under the unit agreement will be under the supervision of a committee of three named by the Ohio, Continental and Argo companies.

The Continental Oil Co. No. 8 Otto Rohiff, SE SW SE section 31-36n-65w, an outside well on the western flank of Lance Creek, which was noncommercial in the Sundance and carried down to the Minnelusa, is a near completion at 5,242 feet. In the first swabbing test it made about 100 bbls. per day through the tubing. It is a mile north and east and 2 miles west of the nearest Minnelusa sand producers.

The Ohio Oil Co. No. 1 Leo-O.P.C.-7, half a mile east of the nearest producer in the Minnelusa, is starting a pumping test and made 80 bbls. of fluid the first 10 hours, most of which was water. It is nearly 4 miles east of Continental No. 8 Rohiff. The two wells are close to the edge of the Minnelusa pool on the east and west as at present outlined.

Ohio Oil Co. No. 8 Converse Sheep, NE SE SW sec. 32-36n-65w. R.U.R.
Ohio Oil Co. No. 2 Cash O.P.C.-5, NW NW NE sec. 4-35n-65w. Drlg. 3,080 ft.
Continental Oil Co. No. 6-B Schuricht, SW SW SE sec. 6-35n-65w. Drlg. 3,520 ft.
J. M. Huber Corp. No. 1 H. & M., NE NE NE sec. 8-35n-65w. W.O. rig.
J. M. Huber Corp. No. 1 Joss, NE SE NW sec. 6-35n-65w. T.D. 4,096 ft.; O.W.D.D.; M.I.R.
Lewis Goekel No. 1, NE SE NW sec. 31-35n-62e. Resumed drlg. 1,550 ft.
Minnelusa Oil Co. No. 3 Joss, NE NE SW sec. 6-35n-65w. Drlg. new hole at 3,285 ft.
Continental Oil Co. No. 3 Apex-1, SE SE NE sec. 34-36n-65w. T.D. 5,480 ft.; fsg.
W. A. Maupin et al No. 1 Berggren, NW sec. 23-35n-63w. Drlg. 180 ft.
Minnelusa Oil Co. No. 1-A Lamb, NE SE SW sec. 27-36n-65w. S.D. 5,412 ft. to str. titles; Minnelusa heavily sat.
Continental Oil Co. No. 5-B Schuricht, C SW SW sec. 5-35n-65w. T.D. 5,273 ft.; made 555 B.P.D. through tbg. latest test.
Ohio Oil Co. No. 2 Leo-O.P.C., NE NE SE sec. 35-36n-65w. R.U.R.
Ohio Oil Co. No. 1 Leo-O.P.C.-7, NW NW SE sec. 35-36n-65w. T.D. 5,641 ft.; tstg.
Continental Oil Co. No. 1 Leach, SW NE NE sec. 29-36n-64w. T.D. 6,350 ft.; fsg. D.P.; dry in Minnelusa.
Continental Oil Co. No. 8 Otto Rohiff, SW SW SE sec. 31-36n-65w. T.D. 5,242 ft.; cmtd. 4½-in. 5,139 ft.; tstg.
MacKennie Oil & Dev. Co. No. 2 Thompson, NW NW NE sec. 7-35n-65w. T.D. 4,771 ft.; ran 450 sacks to cmt. off cave.

Park County

William O'Mara, 36, driller for Manning & Martin, Inc., contractor on Badger Basin wells of Resolute Oil Co., was killed December 1 when struck by a board from the derrick.

Resolute No. 3 (No. 1 Government) is shut down after shooting Wall Creek sand at 8,585-8,628 feet and may be deepened to the Greybull (Cloverly) sand in the spring.

Resolute Oil Co. No. 1 Northern Pacific, C NE NW sec. 21-57n-101w. Drlg. Upper Frontier 8,218 ft.
Resolute Oil Co. No. 1 Govt., C NE NE sec. 20-57n-101w. S.D. 8,670 ft.
Ohio Oil Co. No. 4 Mack-O.P.C.-4, NE NW NE sec. 30-58n-99w. Bldg. rig.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Drlg. 2,415 ft.; C.D.

Sublette County

Texas Co. No. 4-I, SW NE SW sec. 27-27n-113w. T.D. 955 ft.; cmtd. 7-in. 920 ft.; W.O.C.

Sweetwater County

The Mountain Fuel Supply Co. is preparing to drill two wells in the Middle Baxter Basin area, between the north and south domes, in a district where little development has taken place. The last well drilled in this area was No. 1 Arnold, NE cor. section 24-19n-104w, which was completed for 4,000,000 feet of gas in the Sundance at 3,510-25 feet, in the summer of 1929. The two operations are No. 1 Betty Hoyt and No. 1 E. S. Lauzer.

Mountain Fuel Supply Co. No. 1 Hoyt, SW SW SW sec. 32-19n-103w. Loc.; contr. to Rky. Mtn. Drlg. Co.; (first report).
Mountain Fuel Supply Co. No. 1 Lauzer, NW NW NW sec. 30-18n-103w. Bldg. rig.
Mountain Fuel Supply Co. No. 1 Hay, NE SE NW sec. 2-19n-110w. Drlg. 3,100 ft.
Italo Pet. Corp. No. 1 Govt., SW SW SW sec. 36-13n-95w. S.D. 610 ft.

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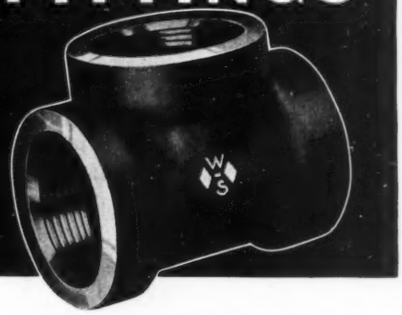

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ROSELLE, NEW JERSEY

Sinclair-Wyoming Oil Co. No. 77, SE NE NE sec. 10-26n-90w. Drlg. r.b. 3,188 ft.
Mountain Fuel Supply Co. No. 1 Union Pacific, C SW SE sec. 13-17n-104w. T.D. 3,330 ft.; P.B. to 3,241 ft.; S.D. for winter.
Mountain Fuel Supply Co. No. 1 Union Pacific, C SE NE sec. 29-15n-104w, S. of Baxter Basin. Loc.

Uinta County

E. A. Ottman et al No. 1 Govt., C SE NW sec. 26-14n-110w. Drlg. 1,230 ft.; S.S.O.

Weston County

Osage Trust Co. No. 27, C NW SE sec. 14-46n-64w. R.U.C.T.
Osage Trust Co. No. 28, C NE SW sec. 14-46n-64w. Loc.
Chas. F. Martens No. 8, SW SW NW sec. 24-36n-64w. Loc.
Osage Trust Co. No. 1, SE NW NE sec. 22-46n-64w. R.U.C.T.
Bradley-Manewal Oil Co. No. 7, CWL NE NE sec. 20-46n-63w. R.O.G.
Federal Oil Co. No. 9, CNL SE SE sec. 15-46n-64w. R.O.G.
Chas. Goodell et al No. 1 State, C NE NE sec. 23-44n-63w. Rdy. to spd.
John Brorphy No. 1 George, SW SE NW sec. 26-48n-64w. S.D. 1,850 ft.; repairs.
Sisty et al No. 1 Carmine, SE SW sec. 31-44n-62w. Drlg. 755 ft.
Le Faivre Oil Synd. No. 1 Martin, NW NW SW sec. 29-45n-68w. Drlg. 2,550 ft.; will U.R. 10-in. at 2,130 ft. for wtr. S.O.
Giles & Proutt No. 1 Govt., CEL SW NE sec. 29-45n-61w. Spdg. 30 ft.

MONTANA

A meeting of Montana producers, marketers and refiners called at Great Falls last Monday by the Oil Conservation Board of Montana, in response to a request of Governor Ayres, to discuss the present marketing situation, had not concluded its sessions at last reports received in Denver. The primary purpose of the meeting was to learn just what powers the board had in taking control of the situation and what could be done to remedy conditions. The meeting continued on into Tuesday and was supposed to have been in session Wednesday.

Montana gasoline sales in October were 12,677,749 gallons, of which 8,118,364 gallons were refined in the state and 4,558,885 gallons were imported. The total compares with 13,358,335 gallons in September.

Big Horn County

P. O. Oil & Gas Co. No. 1, NW NE NE sec. 25-9s-35e. T.D. 288 ft.; fsg.
E. L. Dana No. 1 Hardy, SW NW sec. 22-9s-35e. S.D. 700 ft.

Carbon County

R. C. Tarrant No. 2 Heare, NW SE NW sec. 14-6s-10e. Drlg. 1,228 ft.
Miracle Oil Co. No. 2, CWL NE SE sec. 3-6s-23e. T.D. 1,568 ft. (C.D.); rng. 5⅞-in.
Geo. Muth et al No. 1, CSL SE SE sec. 23-6s-23e. S.D. indef. at 1,500 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW sec. 35-9s-23e. S.D. 1,626 ft. for 8¼-in.; top Frontier 1,608 ft.; small S.O.
Sha-Wa Pet. Co. No. 1 Govt., SW SW NE sec. 35-9s-23e. Drlg. 2,015 ft.; will go to Greybull; shot second Frontier 1,955-63 ft. with 20 qts.
Sha-Wa Pet. Corp. No. 2 Govt., SW SE NE sec. 35-9s-23e. Loc.; Greybull sd. test; (first report).

Choteau County

Security Pet. Co. No. 1 Johnson, NE sec. 23-26n-3e. S.D. 1,700 ft.

Cascade County

C. Leonard Smith No. 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. T.D. 750 ft.; fsg. tools.

Daniels County

White Tail O. & G. Co. No. 2 Wiley, NW NW NW sec. 10-36n-50e. Drlg. 1,675 ft. after rng. 10-in.

Fergus County

Baugham & Singley No. 1 Skaggs, C NW SW sec. 7-15n-20e. Drlg. 400 ft.
Lewistown Oil Co. No. 1 Parks, C NE NE sec. 13-15n-18e. Drlg. 1,200 ft.; 10-in. at 300 ft.; 8¼-in. at 690 ft.
East Crest Oil Co. No. 1 Brakke, NW SE SW sec. 14-15n-19e. Drlg. 660 ft.
White Top O. & G. Co. No. 1 Govt., C NE SW sec. 35-14n-19e. Drlg. 1,400 ft.

Glacier County

There were no completions or new operations in the Cut Bank field. A. B. Cobb No. 1 State, a wildcat to the north and east of the field proper, in what is known as North Cut Bank, attracted attention with a flow of 8,300,000 feet of gas per day in the Moulton sand at 2,572-85 feet. Hole was continued to 2,592 feet without any increase. It is preparing to run casing to top of the sand.

Glacier Prod. Co. No. 1 Reynolds, 2,490 ft. W of E L. 1,320 ft. N of S L. R.U.
A. B. Cobb No. 1 State, C NE NE sec. 30-37n-4w. T.D. 2,592 ft.; prep. to run 5⅛-in. to top of gas sd.
B. V. Hole No. 3 All.-124, SE SW SE sec. 1-32n-6w. T.D. 3,018 ft.; fsg.; good S.O. 3,015-18 ft.

Hill County

W. E. Drought No. 1, SE NW SE sec. 29-32n-16e. Drlg. 800 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e. T.D. 1,750 ft.; prep. to set 5⅛-in. on top Madison 1,746 ft.

Lewis and Clark County

Lewis & Clark Oil Synd. No. 1 Lewis & Clark, NW NW SW sec. 11-18n-5w. Spdg.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. S.D. 1,250 ft.

Petroleum County

O. B. Canfield No. 2 Govt., SE SE NE sec. 21-17n-24e. Drlg. 750 ft.; set 5⅛-in. for W.S.O.

Roosevelt County

John W. Schmidt et al No. 1 Freu, NW NW NE sec. 21-28n-50w. T.D. 1,400 ft.; cmtd. csg.; drlg. plug.

Toole County

Three wells, one a gasser, were completed in Kevin-Sunburst and one new operation was reported.

The Hannah-Porter Co. No. 2 Benjamin, CWL SE SW section 18-33n-1w, in the southern part of the field, was completed for 2,000,000 feet of gas per day in the Sunburst at 1,353 feet, total depth.

William McKnight No. 4 Gunderson, NE NE NW section 19-35n-2w, is pumping 180 bbls. per day, pipe line oil, from the contact at 1,580-1,605 feet after acidizing with 500 gallons.

Scotland No. 2 McNamar, CNL NW SW section 29-35n-3w, on the west side, pumped 100 bbls. per day after acidizing from the contact at 1,795-1,800 feet.

Chas. Grant et al No. 1 Anderson, SE NE NE sec. 26-35n-4w. Spdg.; (first report).
New Era Fuel Co. No. 3 Goeddertz, C SE SW sec. 12-35n-3w. S.D. 980 ft.
Big West Oil Co. No. 7 McDonald, NW NE NE sec. 19-35n-2w. T.D. 1,617 ft.; contact 1,585 ft.; acid.
56 Pet. Co. No. 1 Davidson, SE SE NW sec. 26-35n-4w. S.D. 2,080 ft.
Welch Bros. No. 2 Ward, SW SE NE sec. 29-35n-3w. S.D. 1,655 ft.
Plotke & Rader No. 11 Fryberger, NW SE SE sec. 29-35n-3w. S.D. 1,698 ft.; S.O.
Hamilton & Hamilton No. 4 Reeg, SE SW SE sec. 14-35n-2w. S.D. 450 ft.
Guy Smith No. 1 Govt., C NE SE sec. 35-36n-3w. Spd. 10 ft. and S.D.
C. T. Olen No. 7 Engemoen, C NW NW sec. 14-35n-2w. T.D. 1,607 ft.; contact 1,591 ft.
E. O. Reichoff No. 3 Baum, SW SW SE sec. 3-35n-3w. S.D. 10 ft.
Bryant Bros. No. 1 Lashbaugh, NE SW NW sec. 34-25n-2w. T.D. 850 ft.; R.U. heavier mach. to resume.

Outside Kevin-Sunburst

Montana Gas Corp. No. 2 Clark, C SE SW sec. 24-37n-1w. Drlg. 2,180 ft.

Yellowstone County

Riverton Oil Co. No. 1 Fox, CEL NW NE sec. 14-2n-23e. Top Dak. 1,800 ft.; rng. csg.

(Continued on Page 103)

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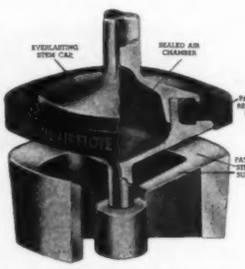

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Kansas Developments

By
DAL DALRYMPLE

MANY WILDCATS COMPLETED, NEW EXPLORATION STARTED

Other oil states may be experiencing the customary winter slump in drilling activity, but there has been little cessation of field work in Kansas and exploration of new areas continues unabated. Several new wildcat tests were announced the past week. Some producers have curtailed their operations slightly, but are reported preparing for a busy season after the turn of the year.

Four new wildcats are being started in Stafford County, at Newman & Winemiller No. 1 Sittner, SW cor. section 4-22-12w; Lindsay & Balliere No. 1 Tieperman, SW SW NW section 31-22-12w, already below 3,450 feet; Fred Rust No. 1 Sims, NW NW SW section 8-23-11w, and Stanolind Oil & Gas Co. No. 1 Volker, SW NW NE section 23-24-11w.

Rooks County also is sharing in the new wildcat activity, tests being started at Witt & Sheridan No. 1 Morrison, NW SE SW section 29-10-17w; L. A. Farris and associates No. 1 John Hancock Life Insurance Co., NW SW SW section 21-18-10w, and Elwell & Wenzel No. 1 well in NE NE NW section 15-9-18w.

New outposts were reported at Watchorn and others No. 1 Brown, NE SE section 34-13-17w, Ellis County; J. J. Muth and others No. 1 Penney, CNL NE SE section 29-14-18w, Ellis County; S. L. Parks and others No. 1 Gorham Estate, SW NW NE section 19-15-15, and R. H. Shields No. 1 Rogg, NW NW SW section 28-14-13w, Russell County; Shell Petroleum Corp. No. 1 Settinger, NE NW SE section 1-16-14w, Barton County; Stanolind Oil & Gas Co. No. 1 Stumps, SW NE section 30-17-10w, Ellsworth County; Shell Petroleum Corp. No. 1 Zagic, NW NE section 13-18-8w, Rice County, resuming operations; Parrish & Wilson No. 1 Siedd, C SE section 11-28-38w, Grant County; and Pioneer Oil Co. No. 1 well, NW SE NE section 7-26-10, Greenwood County.

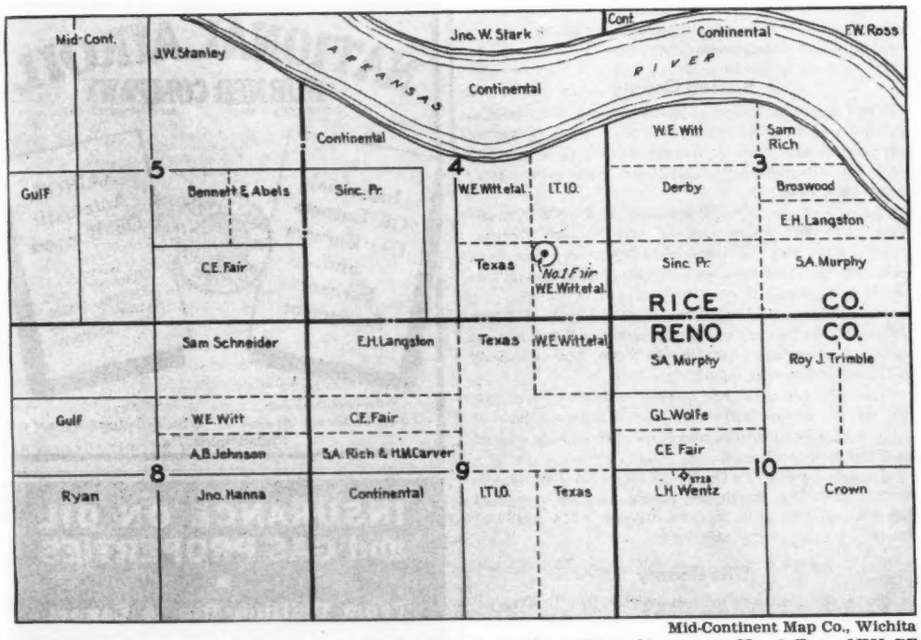
Morrison & Unsell were starting work at No. 1 Webb, SE SE NE section 11-23-17, in southwestern Anderson County and 4 miles northeast of the new townsite play at Neosho Falls, Woodson County. The first break in Mississippi lime is the goal, but other formations will be tested.

The Whelan, or North Medicine Lodge pool of Barber County, was extended one location westward at Olson Oil Co. and others No. 2 Swartz, SW SE SE section 30-31-11w. It was bottomed at 4,294 feet in Chat, where it filled with oil and made a head flow before being shut in.

Jess Cling and others No. 1 Dole Estate, SE NW NE section 12-19-1w, wildcat northeast of Canton in eastern McPherson County, was reported drilling below 2,875 feet in Chat, with 1,400 feet of oil in the hole. Chat was topped at 2,850 feet.

An extension of the Wilcox sand sector of the Ritz-Canton pool of McPherson County, seemed assured at Tom C. Johnson No. 3 Shaw, NE NW SW section 21-19-1w, which was swabbing with 1,000 feet of oil in the hole at 3,425 feet, total depth. Top of Wilcox sand was 3,401 feet. It is one-fourth mile south of Wilcox production in the pool.

An important completion of the week was National Refining Co. No. 1 fee, SE NE SE section 36-27-2e, wildcat pool opener 9 miles east of Wichita in Sedgwick County.



Mid-Continent Map Co., Wichita

W. E. Witt has opened a new producing area in southern Rice County at No. 1 Fair, NW SE SE section 4-22-8w

Wildcat Completions

Fourteen Kansas wildcats went into the discard as failures the past week, while three found production, albeit small.

Largest producer of the discovery wells was National Refining Co. No. 1 fee, SE NE SE section 36-27-2e, wildcat in eastern Sedgwick County, near the Butler County line. It found Wilcox sand at 3,087 feet, total depth 3,099 feet, plugged back to best pay at 3,098 feet when water intruded. It made potential of 189 bbls. of oil, with no water. It had Mississippi lime at 2,801-3,030 feet.

A new producing area was opened east of Cedarvale in western Chautauqua County at W. G. Buffington No. 1 Fisher, C W half SW NW section 10-34-9, which pumped 25 bbls. of oil daily after acid treatment. Top of Altamont lime was 1,648 feet, total depth 1,679 feet.

Ingot Oil Co. No. 1 McKee, SW NE SW section 21-32-12, northeast of Sedan in Chautauqua County, had Peru sand at 1,178 feet, total depth 1,209 feet, was acidized without increasing production, and was completed, pumping 2 bbls. of oil and 2 bbls. of water daily.

Texas Co. No. 1 McCarroll, C W half W half NW section 29-10-17w, Rooks County wildcat, topped anhydrite at 1,340 feet, found Siliceous lime at 3,699 feet and was dry and abandoned at 4,193 feet, total depth.

A Russell County failure was recorded at C. L. Price No. 1 Sebesta, NE cor. section 36-15-11w. Siliceous lime was topped at 3,314 feet and it had a hole full of water and was abandoned at 3,435 feet, total depth.

In Barton County, Arch Merriam and others No. 1 Norris, NE NE NW section 33-17-11w, topped Siliceous lime at 3,345 feet, had a hole full of water at 3,351-54 feet, total depth, and was abandoned.

Stanolind Oil & Gas Co. No. 1 Hagen A, SE cor. section 21-20-11w, also in Barton County, had a hole full of water and was abandoned at 3,333 feet, total depth. Top of Siliceous lime was 3,328 feet.

Fred Phillips and others No. 1 Oden, SE NE NW section 22-20-7w, wildcat in Rice County, was dry and abandoned in Siliceous lime at 3,720-42 feet, total depth.

Other Failures

C. E. Ash Drilling Co. No. 1 Broman, NE NE NW section 19-17-4w, McPherson County wildcat, had Wilcox sand at 3,724 feet, the hole filled with water at 3,730 feet, total depth, and it was dry and abandoned.

A Stafford County failure was recorded at Stanolind Oil & Gas Co. No. 1 Tiechman, SE cor. section 13-22-13w, which topped Siliceous lime at 3,754 feet, total depth 3,760 feet, plugged back to 3,733 feet, perforated casing without result and was dry and abandoned.

Torry & Feaster and associates No. 1 McConnaughay, NE SE NW section 8-24-13w, also in Stafford County, had Siliceous lime at 4,130-55 feet, total depth, water intruded and it was abandoned.

In Reno County, Albert Austin No. 1 Schwiethale, SW SW NE section 17-23-10w, was dry and abandoned at 3,790 feet, total depth. Siliceous lime was topped at 3,762 feet.

E. W. Hamilton and others No. 4 Holland, SW NW SE section 6-26-12w, Pratt County wildcat, found Siliceous lime at 4,322-40 feet, total depth, water intruded and it was abandoned. Top of anhydrite was 715 feet.

Olson Oil Co. and Skelly Oil Co. No. 1 Elsea, SW SE NW section 27-32-14w, wildcat in Barber County, topped Simpson zone at 5,113 feet, had Siliceous lime at 5,225-48 feet, total depth, water showings increased, it was plugged back to 4,844 feet and casing was ripped, but it had only a rainbow show of oil and was abandoned.

C. L. Brosius and others No. 1 Garrett, NW SW NW section 26-32-11, wildcat in Chautauqua County, found Siliceous lime at 2,065 feet, had a hole full of water at 2,076 feet, total depth, plugged back to 1,545 feet and was shot but was dry and abandoned.

A failure was recorded in Greenwood County at Eagle Oil Co. No. 1 Stine, NE NE SE section 13-28-10, which was abandoned at 740 feet, total depth.

In Woodson County, Charles Roeser and others No. 1 Weide, NW NW SE section 18-25-14, topped Mississippi lime at 1,531 feet, water intruded and it was abandoned at 1,556 feet, total depth.

Barton County

Five wells were completed in the prolific Silica district of Barton County, and five elsewhere in the county, exclusive of the wildcats.

Stanolind Oil & Gas Co. No. 4 Shartz, SE NE SW section 2-20-11w, topped Siliceous lime at 3,288 feet, was bottomed at 3,316 feet, was shot and acidized and made potential of 1,039 bbls. of oil.

Same company's No. 6 Kowalsky, SW NW NE sec-

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tion 11-20-11w, made potential of 1,578 bbls. of oil after acid treatment. Top of Siliceous lime was 3,271 feet, where 6-inch casing was set, and it was bottomed at 3,283 feet.

Stanolind Oil & Gas Co. No. 6 Fred Panning, SE SE NW section 11-20-11w, found Siliceous lime at 3,274 feet, total depth 3,290 feet, swabbed 37 bbls. of oil an hour before acidizing and made potential of 1,623 bbls. daily after treatment.

Lario Oil & Gas Co. and Atlantic Refining Co. No. 2 Bryant, NE SE SE section 23-20-11w, had Siliceous lime at 3,265 feet, total depth 3,276 feet, was acidized and made potential of 1,289 bbls. of oil.

Stanolind Oil & Gas Co. No. 2 Schmidt, NE NE SE section 35-19-11w, made potential of 406 bbls. of oil after shooting and acidizing. Six-inch casing was set on top of Siliceous lime at 3,293 feet, total depth 3,316 feet.

In the Bloomer district, National Refining Co. No. 8 McLean, SW SE SE section 25-17-11w, found Siliceous lime at 3,271 feet, set 6-inch casing at 3,272 feet, and was bottomed at 3,282 feet. It pumped 175 bbls. of oil in eight hours, making potential of 336 bbls.

Cities Service Oil Co. No. 1 Bitter B, NW NW SE section 8-16-13w, topped Siliceous lime at 3,376 feet, total depth 3,384 feet, was acidized and made potential of 1,237 bbls. of oil.

Same company's No. 4 Bitter, NE NW NW section 5-16-13w, made potential of 818 bbls. of oil after acidizing. Top of Siliceous lime was 3,318 feet, total depth 3,326 feet.

Shell Petroleum Corp. No. 1 Maier, NE NE NW section 2-16-14w, found Siliceous lime at 3,311 feet, set 7-inch casing at 3,313 feet, was bottomed at 3,337 feet, swabbed 228 bbls. of oil in five hours and made potential of 1,134 bbls.

Stanolind Oil & Gas Co. No. 2 Stueder, NE NE SW section 26-16-13w, had Siliceous lime at 3,398 feet and was dry and abandoned at 3,403 feet.

Russell County

The largest of four producers completed in Russell County was Cities Service Oil Co. No. 3 Krug D, SW SE SE section 24-15-14w. It had Siliceous lime at 3,321-23 feet, total depth, was acidized and made potential of 1,687 bbls. of oil.

Same company's No. 7 Strecker A, NE SW NE section 35-14-14w, South Gurney area, topped Gorham sand at 3,177 feet, was bottomed at 3,179 feet, and made potential of 1,118 bbls. of oil. Seven-inch casing was set at 3,170 feet.

J. C. Shaffer, Inc., and associates No. 3 Cram, SW NW SE section 11-14-15w, set 5-inch casing at 3,265 feet on top of Gorham sand, total depth 3,269 feet, and made potential of 598 bbls. of oil.

Lario Oil & Gas Co. and others No. 2 Brown-Waudby, NE NE SE section 26-14-15w, topped Siliceous lime at 3,176 feet, water intruded and it was dry and abandoned at 3,195 feet, total depth.

Stanolind Oil & Gas Co. No. 15 Baxter A, SW NE SW section 32-13-15w, set 6-inch casing at 3,301 feet, had Gorham sand at 3,312 feet, total depth 3,314 feet, and made potential of 211 bbls. of oil.

Ellis County

Three oil producers were completed in Ellis County. Largest of these was Phillips Petroleum Co. No. 4 Staab, SE SW NE section 11-12-18w, Walter area. It found Siliceous lime at 3,678 feet, total depth 3,690 feet, swabbed 203 bbls. of oil in five hours after acidizing with 500 gallons, was given two more acid treatments with 3,500 and 4,000 gallons, respectively, pumped 965 bbls. of oil in eight hours and made potential of 2,868

In the Bemis area, Magnolia Petroleum Co. No. 7 Johansen, SE NW SE section 22-11-17w, topped Siliceous lime at 3,398 feet, total depth 3,402 feet and made potential of 2,561 bbls. of oil.

Cities Service Oil Co. No. 7 Johansen, NE cor. section 22-11-17w, pumped 30 bbls. of oil an hour before acidizing and made potential of 1,664 bbls. after treatment. Siliceous lime was found at 3,395 feet, total depth 3,404 feet.

Rice County

Stanolind Oil & Gas Co. No. 7 Hathaway, C S half N half SW section 33-19-10w, Silica district, Rice County, found Siliceous lime at 3,290 feet, total depth 3,301 feet, was acidized and made potential of 1,559 bbls. of oil.

Hartman & Blair No. 2 Schartz B, SW NW SE section 33-19-10w, topped Siliceous lime at 3,319 feet, total depth 3,351 feet, plugged back to 3,333 feet, acidized, the hole filled with water and it was abandoned.

Mid-Plains Petroleum Corp. No. 2 Hauschild, SE SE

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SW section 11-21-7w, Hauschild pool, set 7-inch casing on top of Conglomerate at 3,360 feet, was bottomed at 3,382 feet and made potential of 322 bbls. of oil.

Republic Natural Gas Co. No. 2 Oden, SW NW NW section 5-21-7w, topped Conglomerate at 3,337 feet, showed some oil, but was abandoned at 3,353 feet, total depth.

El Dorado Refining Co. and Dick Sage No. 3 Gossman, NW SE SW section 5-21-7w, was reported as an abandoned location.

Estimated Daily Production

Estimated daily production of Kansas for the week ending December 4 and for the preceding week was as follows:

	Barrels	
	Dec. 4	Nov. 27
Oxford City	1,500	1,500
Burrton	10,025	10,100
Ritz-Canton	4,100	5,025
Graber	2,150	2,900
Hollow-Nikkel	2,600	2,550
Lerado	1,400	1,500
Voshell	2,325	2,300
Wellington	3,175	3,150
Ellsworth County:		
Lorraine	2,750	3,175
Other pools	1,120	1,200
Rice-Barton counties:		
Bloomer	3,000	3,800
Chase	6,375	6,750
Geneseo	2,250	2,300
Raymond	1,700	1,525
Silica	11,900	14,050
Keesling	1,150	1,025
Hauschild	1,400	1,600
Miscellaneous Rice	8,205	8,060
Miscellaneous Barton	6,630	8,320
Russell County:		
Fairport	2,420	1,865
Gorham	2,435	1,775
Russell	620	1,915
Sullivan	7,560	6,925
North Trapp	9,085	11,195
Miscellaneous Russell	6,635	7,215
Sedgwick County:		
Valley Center	1,115	1,080
Miscellaneous	2,730	2,735
Ellis County:		
Bemis	6,875	7,575
Miscellaneous	2,090	3,200
Kingman County	525	620
Stafford County	3,140	2,870
Greenwood County	9,900	9,925
Butler County	16,050	16,125
Other fields	23,840	23,450
Total Kansas	168,775	179,300

Harvey County

The largest of a trio of producers completed in Harvey County was Shaffer and others No. 2 Dettweiler, NW SE NE section 2-23-2w. It topped Chat at 2,962 feet, total depth 2,994 feet, pumped 276 bbls. of oil in eight hours and made potential of 754 bbls. of oil, cutting 2 per cent water.

E. J. Shaffer and others No. 1 Sanders, NW NW SW section 20-23-3w, Burrton district, had Chat at 3,261 feet, set 6½-inch casing at 3,265 feet, was bottomed at 3,371 feet, acidized, and made potential of 257 bbls. of oil, with 30 per cent water.

Olson Drilling Co. and Shell Petroleum Corp. No. 6 Schrag, NE SE SW section 30-23-3w, topped Chat at 3,272 feet, set 7-inch casing at 3,290 feet, was bottomed at 3,365 feet, acidized and made potential of 595 bbls. of oil.

Ellsworth County

Skelly Oil Co. big producer in the Habiger area of Ellsworth County was completed the past week. It was No. 2 Zink, SE SW SW section 32-17-10w. Top of Kansas City lime was 2,933 feet, total depth 3,016 feet, with best pay found at 3,001 feet. It flowed 580 bbls. of oil in 24 hours, was acidized, and flowed 2,487 bbls. of oil in eight hours, making potential of 7,421 bbls.

Rush County

Morgan & Flynn and others No. 1 Schroeder, C S half SE NE section 26-18-16w, Otis area, Rush County, had LaMotte sand at 3,521 feet and was abandoned when water intruded at 3,595 feet, total depth.

McPherson County

Continental Oil Co. and others No. 6 Goering, SW cor. section 29-21-1w, Graber pool, McPherson County, topped Hunton lime at 3,255 feet, total depth 3,279 feet, was acidized and made potential of 542 bbls. of oil.

Reno County

Magnolia Petroleum Co. and others No. 3 Thome, NE SE NE section 17-26-4w, Hilger pool, Reno County, had Viola lime at 4,032-33 feet, total depth, acid treatment failed to get desired results, the hole filled with water and it was abandoned.

Greenwood County

R. B. Molter No. 1-A Ledgerwood, NW SE NW section 36-27-8, Greenwood County, had Peru sand at 1,840-57 feet, total depth, it was shot, swabbed 12 bbls. of oil daily, pumped 9 bbls. daily and was completed.

Coffey County

Preston Hart No. 2 Kufahl, SW SE NW section 11-23-13, Coffey County sector of the North Virgil area, had Mississippi lime at 1,769-1,812 feet, total depth, was shot and completed as a 10-bbl. pumper.

Woodson County

Saco Oil Co. No. 2 Hassenpflug, NW NW NE section 34-25-14, Woodson County, had Bartlesville sandy shale at 1,430 feet, total depth 1,514 feet, and was dry and abandoned.

Sumner County

Sinclair Prairie Oil Co. No. 4 Herrick, NE SW SE section 15-35-2e, Sumner County, North Vernon area, had Bartlesville pay at 3,428 feet, total depth 3,438 feet, was shot and made potential of 366 bbls. of oil.

Phillips Petroleum Co. and others No. 1 Patton, C NE NE section 20-33-2e, was dry and abandoned at 3,375 feet, total depth.

Cowley County

Deep Rock Oil Corp. No. 2 Cranston, SW NW NE section 30-32-6, Cowley County, topped Layton sand at 2,216 feet, total depth 2,223 feet, was shot, pumped 156 bbls. of oil in eight hours and made potential of 437 bbls.

Chautauqua County

C. E. W. Skiles No. 2 Landon & Floyd, SW NW SE section 23-32-10, Chautauqua County, had Mississippi lime at 1,942-2,070 feet, total depth, and was estimated good for 60 bbls. of oil daily.

C. E. W. Skiles and others No. 2 Shaffer, NW SW NE section 23-32-10, topped Mississippi lime at 1,928 feet, total depth 1,967 feet, was shot and acidized and pumped 50 bbls. of oil daily.

Brosius & Neely No. 1-A Landon & Floyd, SW NW SE section 29-32-11, had a hole full of water in Siliceous lime at 2,293-2,343 feet, total depth, and was abandoned.

Sinclair Prairie Oil Co. No. 10 Winans, C SW NE section 27-34-11, had a hole full of water and was abandoned at 2,130 feet, total depth.

Stevens County

Pioneer Petroleum Co. No. 1 Williams, C SW section 12-35-38w, Hugoton field, Stevens County, set 7-inch casing at 2,565 feet, total depth 2,803 feet, was acidized and produced 12,000,000 feet of gas, completed.

United Production Co. No. 1-14 Christopher, C SE section 14-33-39w, was an abandoned location.

Grant County

United Production Co. No. 2 Teters, C W half W half E half section 35-30-36w, and No. 1 Teters, 2,640 feet north and 2,300 feet west of SE cor. section 26-30-36w, Grant County, were abandoned locations.

Rocky Mountain Areas

(Continued from Page 100)

Broadview Dome Oil Co. No. 1, NE NE SW sec. 18-3n-23e. Drlg. r.b. 3,773 ft.
Lauriel Oil Co. No. 1, C NW SW sec. 7-2s-24e. Drlg. 192 ft.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 3-B Murphy, NW NW SW sec. 23-3n-24e. Cmtd. 13⅜-in. at 323 ft. and S.D. for winter.

Grand County

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. S.D. 6,715 ft.; M.I. heavier rotary equip.
Columbia Crude Corp. No. 1 Rath, NW SW SE sec. 12-25s-20e. T.D. 2,326 ft.; ran 5-in. to 6¼-in. shoe.
Cane Creek Oil Co. No. 1 Govt., NW SW sec. 31-26n-21e. Drlg. 857 ft.

Summit County

Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. Res. drlg. 2,430 ft.

NEBRASKA

Sioux County

J. M. Huber Corp. and United Producers, Inc., No. 1 Morgan, C SW SW sec. 32-35n-56e. S.D. 3,257 ft.; r.b.

Jefferson County

L. R. Page et al No. 1 Bonham, C SE SE sec. 1-1n-1e. U.R. 8¼-in. at 2,657 ft.; H.F.W.

NORTH DAKOTA

Williams County

California Co. No. 1 Kamp, C NW NE sec. 3-154n-96w. Drlg. below 3,930 ft.

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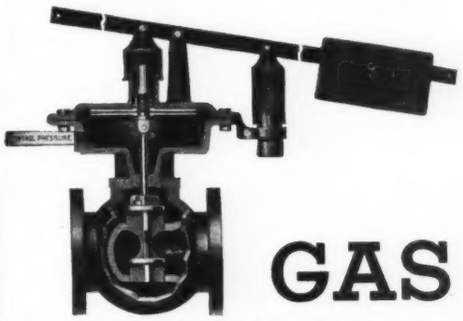

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North Louisiana, Arkansas

RODESSA IN MILLER COUNTY IS PRORATED BY PIPE LINES

By GEORGE WEBER

SHREVEPORT, La., Dec. 6.—Production in the Miller County, Arkansas, sector of the Rodessa field again decreased in the past week, mainly due to reduced purchases of the three pipe line companies serving the field. In order to protect the production to the south in the Caddo Parish, Louisiana, part of the field, the pipe line operators set out to reduce runs in the unprorated Arkansas area to a maximum of 200 bbls. per well.

Previously wells have been flowing their utmost, with production of some of them ranging up to 800 bbls. per day.

However, the daily average production in the Miller County field is still in excess of the 200 bbls. per well average. Immediately following the action of the pipe line companies, one operator announced plans for the laying of a line from his production to a loading rack alongside a railroad, after which the pipe line company agreed to take his production as before. No chance of state control of production in the area is seen until at least January 1, to which date enforcement of the proposed proration measures of the Arkansas State Board of Conservation have been postponed.

Meanwhile, a heavy drilling campaign is under way on the Arkansas side of the tri-state field, with 12 active drilling rigs making hole.

Buckner Well In

The new Buckner field of Columbia County, Arkansas, began regular production this week, as the Standard Oil Co. of Louisiana completed No. 1 J. P. McKean, NE cor. SW section 8-16s-22w. Operators have been making a series of production tests on the new field opener for several weeks, and after acidizing it made 1,368 bbls. of oil in 19 hours on chokes varying in size from one-quarter to one-half inch. In the past week it was brought in making an initial of 19 bbls. per hour through open 2½-inch tubing. Tubing pressure is 100 pounds, and pressure on the casing was recorded as 250 pounds. Total depth of the test is 7,258 feet, in the Permian lime. The crude is being trucked out.

Field Extensions

Other developments of interest centered around an eastern extension to the Lisbon field of Claiborne Parish, and extensions of production in the Miller County, Arkansas, and Cass and Marion counties, Texas, portions of the Rodessa field.

The second Permian lime producer in the newly opened horizon of the Schuler field, Union County, Arkansas, is flowing crude oil and wash water.

RODESSA COMPLETIONS

Caddo Parish, Louisiana

G. H. Vaughn No. 2 Yates, NW section 2-23-16, 65 bbls. per hour through 1-inch choke, casing pressure 600 pounds and tubing pressure 200 pounds. Total depth 6,020 feet.

Cass County, Texas

Bay Oil Corp. No. 4 Cobb, G. Crowder Survey, initial production 151 bbls. per day through one-fourth inch choke; tubing pressure 200 pounds, and casing pressure 650 pounds; total depth 6,091 feet. This well is located in the northwest extension area recently opened in the Rodessa field.

Union Production Co. No. 575 fee, B. Holmes Survey, 179 bbls. per day through one-fourth inch choke, tubing pressure 200 pounds, casing pressure 900 pounds, total depth 6,070 feet.

Union Production Co. No. 4 Hall, Jackson Survey, 11 bbls. per hour through one-fourth inch choke, tubing pressure 300 pounds, casing pressure 500 pounds, total depth 6,087 feet.

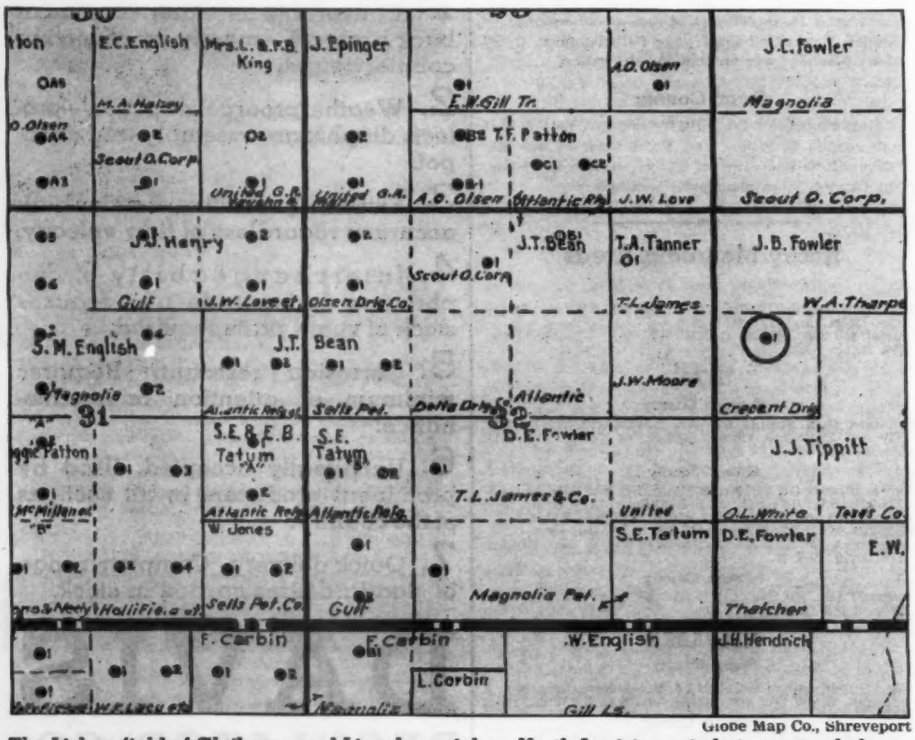
Marion County, Texas

Holcomb & Thomason No. 1-B Henderson, Ewing Survey, 250 bbls. per day through one-eighth inch choke, tubing pressure 325 pounds, casing pressure 1,500 pounds, total depth 6,044 feet. This well extends production in the Jefferson area one-half mile to the west.

Miller County, Arkansas

McClanahan and others No. 1-B Hopkins, center of section 11-20-28, 1,742 bbls. per day through open tubing; casing pressure 600 pounds; total depth 6,100 feet.

Texas Canadian Oil Co. No. 1 Thomas, center section 12-20-28, 509 bbls. per day through a 23/64-inch choke; tubing pressure 300 pounds; casing pressure 750 pounds; total depth 6,168 feet. This test is several locations northeast of the previous edge of the production in the Rodessa field, constituting an important extension to the Miller County sector.



Globe Map Co., Shreveport

The Lisbon field of Claiborne and Lincoln parishes, North Louisiana, is being extended one-half mile to the east by completion on the pump of Crescent Drilling Co. No. 1 Fowler, indicated by the large circle. Further developments are scheduled to the northeast of the field by two outpost locations by Lyons & Neeley, north of the Crescent extension

Estimated Daily Production

Estimated daily gross production all companies week ending December 3, 1937:

NORTH LOUISIANA

Bellevue	745
Caddo light	3,895
Caddo heavy	2,725
Converse	620
Cotton Valley heavy	345
Cotton Valley light	*3,940
De Soto and Red River	1,435
Elm Grove	405
Haynesville	3,040
Holly	110
Homer	2,440
Lisbon	7,400
Pleasant Hill	120
Rodessa	43,085
Sarepta-Carterville	300
Sligo	415
Sugar Creek	350
Urania	2,860
Zwolle	640
Total North Louisiana	74,870

SOUTH ARKANSAS

Champagnolle	1,285
El Dorado	1,885
Lisbon	280
Miller County	425
Nevada	725
Rodessa	11,170
Schuler	7,015
Smackover light	2,000
Smackover heavy	16,410
Stephens	565
Troy	1,150
Urbana	1,200
Total South Arkansas	44,110

Texas side of Rodessa field, 16,600 bbls. daily.
*3,470 bbls. is distillate.

NORTH LOUISIANA

Caddo Parish

In the Caddo field five wells were completed. L. I. Davis No. 2 Stiles, Caddo Parish, SE section 17-21-16, was completed, making 50 bbls. per day on the pump.

Magnolia Petroleum Co. No. 28 Robertshaw, SW

NE section 23-21-15, started at 118 bbls. per day on the pump; total depth 1,650 feet.

Orr and others No. 1 Acme fee, center section 15-21-16, has been abandoned as dry at a total depth of 1,902 feet.

Stewart Williams No. 2 Connell, SW NE section 10-20-15, has been abandoned at 80 feet.

The Texas Co. No. 1-A Caddo Levy Board, SE NE section 33-21-16, has been abandoned in salt water at 2,239 feet.

Claiborne Parish

The Claiborne Parish side of the Lisbon field gained three new wells and a fourth well neared completion on an important eastern outpost location. The well is Crescent Drilling Co. No. 1 Fowler, E half SW NW section 33-21-4. It flowed 50 bbls. during the first hour through a three-fourths inch choke, with tubing pressure 110 pounds and casing pressure 500 pounds. The second hour's flow gauged 27 bbls. The well was treated with 3,000 gallons of acid and flowed 900 bbls. in one week and then went dead. Total depth is 5,285 feet. Operators are rigging up to complete the well as a pumper. It is one-half mile southeast of nearest production in the Lisbon field, marking an important extension.

Harry Hanbury No. 1-E Vaughn, S half NE SE section 25-21-5, Lisbon field, was completed. It flowed 462 bbls. per day through a 27/64-inch choke; casing pressure 400 pounds; total depth 5,221 feet.

Lisbon Oil Co. No. 1 Burgess, section 3-20-5, Lisbon field, started at 70 bbls. per day on the pump at total depth of 5,325 feet.

A. O. Olson No. 5-A Patton, SE NE SW section 30-21-4, flowed 1,440 bbls. per day through a 30/64-inch choke, with tubing pressure 325 pounds; total depth 5,206 feet.

Lincoln Parish

The Lincoln Parish portion of Lisbon added three producers. Gulf Refining Co. No. 1 Patton, center section 6-20-4, came in making 20 bbls. per hour through a 24/64-inch choke, with tubing pressure 200 pounds. Total depth is 5,288 feet.

Magnolia Petroleum Co. No. 1-B Corbin, N half NW NW section 5-20-4, flowed 52 bbls. per hour through one-half inch choke, with casing pressure 160 pounds. Total depth is 5,257 feet.

Red Iron Drilling Co. No. 2 Patton, SW NE section 6-20-4, flowed 381 bbls. per day through 1-inch choke. Tubing pressure was 100 pounds and casing pressure 210 pounds, and total depth 5,256 feet.

Webster Parish

Standard Oil Co. of Louisiana No. 7 Davis, NE NW section 23-21-10, was completed in the Cotton Valley field for an initial production of 194 bbls. per day, with casing pressure 2,800 pounds and tubing pressure 2,900 pounds. Total depth is 8,258 feet.

Standard Oil Co. of Louisiana No. 2-B Gray, NE NW section 26-21-10, Cotton Valley, was completed. It produced 224 bbls. per day of white oil and 3,400,000 feet of gas with casing pressure 2,750 pounds and tubing pressure of 2,750 pounds. Production gauge was on a one-fourth inch choke.

Union County, Arkansas

The second producer in the Lower Permian horizon recently opened in the Schuler field of Union County is in the making, as the Alice Sydney Oil Co. No. 2 Morgan comes in. The test has 5-inch casing set at 7,575 feet, and perforations were made at 7,552-68½ feet. The first 55-minute gauge through 1-inch choke showed 84 bbls. of fluid containing 9 per cent drilling water. Tubing pressure was 350 pounds. Another test on the new sand is Phillips Petroleum Co. No. 1 Gan, SE NE section 18-18-17. Casing is set at the total depth, 7,700 feet.

Caddo Parish

In the Blanchard Prospect, Caddo Parish, A. O. Olson No. 1 Sharp, W half, NW section 15-18-16, made a drill stem test at 5,586-5,609 feet which showed no oil. Casing has been set at 5,591 feet, total depth 5,624 feet.

Union Parish

In the Farmerville Prospect of Union Parish, the Joe Modesett No. 1 Frost Lumber Co., a wildcat which is attracting considerable attention, is drilling below 6,115 feet, not having yet reached critical depth.

Gasoline Tax Receipts Show Increase in California

SACRAMENTO, Calif. — For the first time in the history of the state, California's annual gasoline tax probably will exceed $50,000,000, was indicated by the latest report of the State Board of Equalization. The motor vehicle fuel tax amounted to $4,308,581 for the month of October to bring the total for the 10-month period up to $42,968,661. The tax netted the state slightly more than $48,000,000 in 12 months of 1936, according to board reports.

The October tax was assessed on the distribution of 143,619,376 gallons of gasoline. It represented a gain of 2.81 per cent over the same month for 1936, and was slightly under the assessment reported for September. Ten oil companies reporting sales of more than 300,000 gallons during October are listed below, resale of gasoline previously taxed and exempt sales to the federal government or in interstate or foreign commerce accounting for differences between total sales and taxable sales. These companies are as follows:

	Gallons actually sold	Net taxable gallonage
General Pet. Corp. of California	30,676,530	11,287,163
Gilmore Oil Co.	6,520,875	62,206
Richfield Oil Corp.	17,728,808	12,352,184
Shell Oil Co.	30,640,470	18,091,026
Signal Oil Co.	5,582,426	1,625
Standard Oil Co. of California	62,282,148	26,168,732
Texas Co.	12,959,547	7,324,266
Tide Water Associated Oil Co.	21,602,058	10,194,748
Union Oil Co. of California	20,616,076	14,213,850
Wilshire Oil Co., Inc.	7,224,747	7,212,230

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Dec. 4. — On the west flank of South Turner Valley, Royalite Oil Co. No. 6 Sterling Pacific, LSD 5, section 33-18-2w5, finished at 7,123 feet after getting the Madison at 6,683 feet, developed around 700 bbls. a day natural production. It was acidized and after showing a flush production over 3,000 bbls. a day recorded 2,855 bbls. settled production on official test. Under 35 per cent proration it is flowing approximately 1,000 bbls. a day, making it the second largest producer in the field. This gives Royalite Oil Co. four crude producers on the four westernmost subdivisions in the old Sterling Pacific lease in section 33-18-2w5.

This completion gives the Royalite Oil Co. ownership of or an interest in a total of 79 producing wells in Turner Valley. The majority are naphtha wells in the older portion of the field, of which a considerable number were purchased. Crude producers in which the Royalite company is interested include the four Sterling Pacific wells, Davies-Royalite No. 2, Century Royalties No. 1 and Granville Oils No. 1.

West Side Producers

Actual production of Davies-Royalite No. 2, LSD 13, section 21-18-2w5, with an average of 1,580 bbls. per day in October, totaled 48,992 bbls., the largest monthly production of a single well in the history of the field. Among other producers, No. 3 Sterling Pacific made 2,957 bbls. during the month; No. 4 produced 31,648 bbls., and No. 5 produced 32,791 bbls. Monarch Royalties No. 1 yielded 12,215 bbls. and Foundation Petroleums No. 1 made 11,418 bbls.

Share Royalties No. 1, north half LSD 8, section 29-18-2w5, with a natural production of 480 bbls. a day from the lime was acidized, increasing its potential to 900 bbls., prorated to 316 bbls. Firestone Petroleums No. 1, LSD 13, section 16-18-2w5, with natural flow of 425 bbls. was increased by acidization to 839 bbls. with allowable of 294 bbls. Its production is 36-gravity crude.

Commoil No. 1, LSD 15, section 29-18-2w5, bottoming in the lime at 7,475 feet, has completed installation of three 1,000-bbl. tanks and a second separator and is making a three-day test to determine potential. Natural production is estimated around 1,800 bbls. It will be acidized.

Tests in the Lime

In section 32-18-2w5, West Flank Oil Co. No. 1, LSD 1, finished at 7,135 feet after getting the lime at around 6,700 feet, has been recemented and is testing production.

In section 29-18-2w5, National Petroleum Corp. No. 1, south half LSD 8, is being finished at 7,186 feet after getting the lime at 6,786 feet. It is being completed with cable tools and has been blowing by heads and taking crude production while drilling.

In section 28-18-2w5, Richland Royalties No. 2, LSD 5, got the Madison limestone at 6,410 feet and is preparing to resume after cementing casing.

In section 20-18-2w5, Royal Canadian Oils No. 1, LSD 15, is below 7,136 feet, after getting the lime at 6,960 feet. Sunset Oils No. 1, LSD 10, same section, got the Madison limestone at 7,020 feet and cemented casing at 7,035 feet.

West Flank Drilling

In West Central Turner Valley, Brown Oil Corp. No. 3, LSD 15, section 19-19-2w5, is below 6,107 feet and expected to get the limestone early this month.

In section 32-18-2w5, West Flank No. 3, LSD 8, is below 6,234 feet.

North Turner Valley

In North Turner Valley, Phillips Royalties No. 1, LSD 16, section 16-20-3w5, bottoming at 4,120 feet, is sidetracking lost casing.

Royalite Oil Co. No. 29 Turner Basin, LSD 7, section 27-20-3w5, is below 6,099 feet.

Home Oil Co. No. 1 Millarville, LSD 8, section 33-20-3w5, is fishing at 7,602 feet.

East Side Drilling

On the Calling Valley structure, east of Turner Valley, Sentinel Oil Co. No. 1, LSD 1, section 8-20-2w5, is below 6,040 feet.

On the Aldersyde structure, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is resuming from 7,320 feet, after reorganization of the company. The test when shut down some months ago had not yet reached the lime, but had encountered numerous fair shows of gas and light crude. It is expected to get the Madison somewhat higher than Arca Development Corp. No. 1, farther south, which contacted the lime formation at 8,756 feet.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, bottoming at 8,274 feet, is finishing formation test.

Highwood-Sinclair Structure

On the Highwood-Sinclair structure, in the southern foothills, Green Valley Oils No. 1 Banner, LSD 6, section 34-17-3w5, is drilling out cement below 4,590 feet. It is in the Lower Blairmore formation, with traces of sandstone similar to the Dalhousie and some lime; and is expected to get the Dalhousie formation around 4,650 feet and the lime around 5,000 feet. Both horizons are potential crude producers.

Border Fields

In the Taber field, southern Alberta, Plains Petroleum Corp. No. 3, section 25-9-17w4, is drilling in after cementing casing on top of the Clancey sand at 3,106 feet. It got the horizon somewhat higher than No. 2 producer, which is pumping around 75 bbls. a day, running somewhat less than potential owing to limited storage and shipping facilities. Two additional 500-bbl. tanks are being completed. With both wells in production, Plains No. 1, standing on top of the Ellis sand at about 3,310 feet, will be finished. Derrick timbers are being moved for No. 4.

In the Steveville district, Anaconda Oil Co. No. 1, LSD 15, section 9-22-12w4, has been shut down at 1,210 feet, owing to difficulty in keeping the 1⅛-mile water line from freezing.

British Columbia Test

In the Sage Creek district, in southeastern British Columbia, Columbia Oils No. 1 is below 6,504 feet with cores indicating marked changes in the formation.

Lloydminster Gasser

In the Lloydminster field, West Central Saskatchewan, Triangle Gas & Development Co. No. 2, 2 miles east of the town, was finished in the main gas sand with 2,000,000 feet a day and 365 pounds rock pressure.

Drilling in Ontario

In the Dover field, Kent County, Ontario, E. P. Rowe No. 4, Walter Johnston farm, east part Lot 5, Front Concession, Raleigh Township, had an initial flow of about 1,000,000 feet a day from the Trenton limestone and is deepening.

In the De Clute field, Kent County, Gas Producers Syndicate No. 4, on the Pardo farm, Raleigh Township, is below 1,525 feet with some gas. Initial flow was estimated 10,000,000 feet a day with the well unfinished, but it will be deepened.

In Essex County, Povec Oil & Gas Co. No. 1, Lot 10, Concession 7, Mersea Township, on the edge of the old Essex gas field, was finished at 1,075 feet, with a flow around 200,000 feet a day. Eugene Coste & Co. No. 2 Reaume, Lot 6, Concession 3, Tilbury North Township, was a dry hole at 1,450 feet.

In the northwest end of Oxford County, Volcanic Gas & Oil Co. No. 3, Lot 35, Concession 10, East Nissouri Township, finished a dry hole in red shale at 1,440 feet.

In Middlesex County, McKechnie, Spaulding & Connors No. 1 Knott, Lot 24, Concession B, South River Thames, in North Dorchester Township, was a dry hole at 1,485 feet, after drilling through the Clinton formation.

In the Brownsville field, Aloka Oil & Gas Co. No. 1 Lewis Brown, Lot 25, Concession 12, Dereham Township, finished around 935 feet, and was good for 2,300,000 feet a day, open flow. Aloka No. 2 Scanlon, Lot 25, Concession 11, was completed in the same horizon, and started at 1,500,000 feet of gas per day. In the southeastern end of the field, Patterson, Beattie & McGill No. 1, Lindsay farm, Lot 9, Concession 10, Bayham Township, was a dry hole.

Brine Control

SAGNIAW, Mich., Dec. 6.—Because it is charged that brine from oil wells in five Michigan fields is finding its way into streams, ruining popular trout fishing areas and contaminating municipal water supplies, the State Stream Control Commission has summoned 72 Michigan oil operators to Lansing Monday, December 13, to tell them they must take immediate action to dispose of the brine output.

The brine damage, according to the state supervisor of wells, currently has its source in the Buckeye and Beaverton fields of Gladwin County, the Porter field of Midland County, the Sherman field of Isabella County and the Clayton field of Arenac County.

The public waters reported suffering from brine pollution from these fields include the Tittabawassee, Tobacco, Rifle, Chippewa and Saginaw rivers, Mansfield Creek, Wixom Lake, Ross Lake and Saginaw Bay. Drainage from all these fields except the Clayton, in Arenac County, eventually finds its way to the Saginaw River and Saginaw Bay. Drainage from the Clayton field goes direct to Saginaw Bay, by way of the Rifle River.

The commission is expected, after the hearing December 13, to issue an order requiring oil operators in the five fields to provide either adequate pondage for their brine or take steps to return it to some subsurface structure, probably the Parma. This latter method has been used with some success in the Vernon and Crystal fields, which have been producers of brine in large volume.

Tanker Safety

Tide Water Associated Oil Co., Associated Division, has been awarded a certificate of merit in the marine safety contest sponsored by the National Safety Council. In the ocean-going tanker classification, Associated's fleet had the best record of any tanker company operating in the United States, S. D. Zeh, manager of Associated marine department, reported. The first prize went to Lago Petroleum Corp. operating in Venezuela under United States registry, which recorded a slight margin over Associated. Associated's record showed but three disabling injuries while working 387,360 man-hours.

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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Hancock-Bush, No. 1-W Santa Maria, Santa Barbara	25-10-34	4,940	flow. 890 b.d.
Hancock-Bush, No. 2-C.L. Santa Maria, Santa Barbara	30-10-33	4,353	fish. D.P.
Macrate, A. N., No. 2 Rice, Santa Maria, Santa Barbara	23-10-34	2,839	sd. sh. drlg.
Mitchell, A. D., No. 1-W Santa Maria, Santa Barbara	27-10-34	4,198	sd. sh. drlg.
York Oil, No. 1 Doane, Santa Maria, Santa Barbara	27-10-34	4,464	pump. 606 b.d.
Pet. Prop., Inc., No. 1-R Santa Maria, Santa Barbara	19-10-33	2,321	cmtd. 1,260
Sunshine Oil, No. 2-W Santa Maria, Santa Barbara	27-10-34	1,591	sd. sh. drlg.
Jones, Frank, No. 1 Santa Maria, Santa Barbara Co.	26-10-34	4,898	sd. sh. drlg.
Moore, E. H., No. 3 Sugar, Santa Maria, Santa Barbara	24-10-34	5,135	sd. sh. drlg.
Moore, E. H., No. 4 Sugar, Santa Maria, Santa Barbara	19-10-34	5,000	sd. sh. drlg.
Moore, E. H., No. 5 Sugar, Santa Maria, Santa Barbara	25-10-35	4,796	sd. sh. drlg.
Pet. Sec., No. 1-R Santa Maria, Santa Barbara Co.	35-10-34	1,597	rd. sh. drlg.
Signal Oil, No. 1 Libeu, Santa Maria, Santa Barbara	26-10-34	4,220	flow. 1,048 b.d.
Signal Oil, No. 1-H Santa Maria, Santa Barbara Co.	26-10-34	2,675	sd. sh. drlg.
Union Oil, No. 3 Russell, Santa Maria, Santa Barbara	21-10-34	4,439	pump. 296 b.d.
Union Oil, No. 1 Vicente, Santa Maria, Santa Barbara	21-10-34	4,560	sd. sh. drlg.
Union Oil, No. 1 Sec., Santa Maria, Santa Barbara Co.	20-10-34	1,763	sd. sh. drlg.
Union Oil, No. 2 LeRoy, Santa Maria, Santa Barbara	24-10-35	5,334	P.B. 5,230
Union Oil, No. 17 Cal. Coast, Orcutt, Santa Barbara	26- 9-34	4,086	sd. sh. drlg.
Dougan Oil, No. 1 Yelkin, Santa Maria, Santa Barbara	27-10-34	892	idle
Getty, George F., No. 1 Santa Maria, Santa Barbara	27-10-34	4,494	sd. sh. drlg.
Pac. West. Oil, No. 5-H Santa Maria, Santa Barbara	21-10-34	4,798	hd. sh. drlg.
Pac. West. Oil, No. 1-S Santa Maria, Santa Barbara	27-10-34	4,837	sd. sh. drlg.
Pac. West. Oil, No. 2-D.P. Santa Maria, Santa Barbara	27-10-34	4,114	sd. sh. drlg.
Crude Oil Drlg., No. 1 Casmalia, Santa Barbara Co.	19- 9-34	1,325	sd. sh. drlg.
Standard Oil, No. 1 Cat Canyon, Santa Barbara Co.	27- 9-33	1,452	sd. sh. drlg.
Texas Co., No. 134 Shiells, Ventura Co.	4- 3-19	4,212	O.S. drlg.
High Mesa Oil, No. 1 Ojai, Ventura Co.	16- 4-22	1,098	hd. sh. drlg.
Richfield Oil, No. 1 McFarland, Camarillo, Ventura	13- 2-21	5,294	cmtd. 4,986
So. Cal. Drlg., No. 1 McFarland, Camarillo, Ventura	26- 2-21	2,210	sd. sh. drlg.
Texas Co., No. 1 Edwards, Camarillo, Ventura Co.	19- 2-21	995	sd. sh. drlg.
Condor Oil, No. 1 Sespe, Ventura Co.	6- 4-19	2,193	pump. 20 b.d.
Arnett, F. E., No. 3 Santa Paula, Ventura Co.	15- 4-21	1,165	br. sh. drlg.
Stallings & Senter, No. 1 Timber Canyon, Ventura Co.	24- 4-21	185	sd. sh. drlg.
Ivers, H. A., No. 14 Star, Sespe, Ventura Co.	1- 4-20	1,905	pump. 125 b.d.
Williamson Oil, No. 1 Sespe, Ventura Co.	1- 4-20	515	sd. sh. drlg.
Section 20 Oil, No. 1 Sespe, Ventura Co.	20- 5-19	820	hd. sh. drlg.
Speik Oil, No. 2 Sespe, Ventura Co.	33- 5-19	3,370	sd. sh. drlg.
Colima Oil, No. 2 Sespe, Ventura Co.	25- 5-19	3,500	cleaning out
Topa Topa Oil, No. 3 Sespe, Ventura Co.	33- 5-19	4,502	P.B. 3,300
Skyline Oil, No. 1-H Hooper Canyon, Ventura Co.	13- 4-18	1,850	cleaning out
Continental Oil, No. 8 Grubb, San Miguelito, Ventura	24- 3-24	3,937	redrlg. 2,850
C. C. M. Oil, No 2 Padre Canyon, Ventura Co.	23- 3-24	7,828	P.B. 6,625
Continental Oil, No. 4 Padre Canyon, Ventura Co.	15- 3-24	6,028	P.B. 5,980
C. C. M. Oil, No. 11 Rincon, Ventura Co.	17- 3-24	3,575	sd. sh. drlg.
Vaca Oil, No. 1 Lennox, Oxnard, Ventura Co.	6- 1-21	2,990	sd. sh. drlg.
Tide Water A. O., No. 19 V.L.W., Ventura, Ventura	26- 3-23	1,971	rd. sh. drlg.
Tide Water A. O., No. 32 V.L.W., Ventura, Ventura	24- 3-23	6,450	sd. sh. drlg.
Tide Water A. O., No. 69 Lloyd, Ventura, Ventura Co.	27- 3-23	2,591	sd. sh. drlg.
Tide Water A. O., No. 135 Lloyd, Ventura, Ventura Co.	27- 3-23	7,574	cleaning out
Tide Water A. O., No. 138 Lloyd, Ventura, Ventura Co.	23- 3-23	5,665	sd. sh. drlg.
Tide Water A. O., No. 18 Hartman, Ventura, Ventura	22- 3-23	8,700	sd. sh. drlg.
Tide Water A. O., No. 27 Hartman, Ventura, Ventura	22- 3-23	6,575	rig. to pump
Shell Oil, No. 92 Taylor, Ventura Avenue, Ventura Co.	20- 3-23	6,996	sd. sh. drlg.
General Pet., No. 13 Notten, Ventura, Ventura Co.	28- 3-23	9,097	sd. sh. drlg.
Tide Water A. O., No. 10-E-3 Lost Hills, Kern Co.	3-26-20	2,403	will P.B.
Standard Oil, No. 7 United, Lost Hills, Kern Co.	2-26-20	1,294	rig. to pump
Amerada Pet., No. 5 Beer, Devils Den, Kern Co.	22-26-19	4,674	br. sh. drlg.
Franco-Western Oil, No. 14 McKittrick, Kern Co.	8-20-22	2,173	P.B. 2,160
Par Mer Oil, No. 1 McKittrick, Kern Co.	6-31-22	1,831	br. sh. drlg.
Standard Oil, No. 2 Randolph, Semi-Tropic, Kern Co.	14-27-23	7,805	sd. sh. drlg.
Continental Oil, No. 2 KCL, Wasco, Kern Co.	8-27-24	11,584	fish. D.P.
Belridge Oil, No. 27-7 North Belridge, Kern Co.	27-27-20	1,053	sd. sh. drlg.
Belridge Oil, No. 27-8 North Belridge, Kern Co.	27-27-20	5,724	fish. D.P.
Belridge Oil, No. 27-61 North Belridge, Kern Co.	27-27-20	5,770	br. sh. drlg.
Belridge Oil, No. 28-1 North Belridge, Kern Co.	28-27-20	4,381	sd. sh. drlg.
Tide Water A. O., No. 2 Reward, North Belridge, Kern	34-27-20	4,483	P.B. 4,389
Tide Water A. O., No. 7 Reward, North Belridge, Kern	34-27-20	5,965	br. sh. drlg.
Tide Water A. O., No. 1-21 North Belridge, Kern Co.	21-27-20	4,993	br. sh. drlg.
Tide Water A. O., No. 2-21 North Belridge, Kern Co.	21-27-20	2,483	br. sh. drlg.
Richfield Oil, No. 1-A North Belridge, Kern Co.	22-27-20	3,171	sd. sh. drlg.
Texas Co., No. 2 Martin, North Belridge, Kern Co.	22-27-20	4,798	sd. sh. drlg.
General Pet., No. 1 St. Helens, Belridge, Kern Co.	12-28-20	4,491	sd. sh. drlg.
Eastmont Oil, No. 6 Olcese, Round Mountain, Kern	16-28-20	1,801	pump. 295 b.d.
Fremont Oil, No. 2 Olcese, Round Mountain, Kern Co.	35-28-29	2,776	dry; abd.
Link Trucking, No. 1 Round Mountain, Kern Co.	30-28-29	1,695	cleaning out
Shell Oil, No. 16 Freeman, Round Mountain, Kern Co.	20-28-20	1,815	pump. 930 b.d.
Cal-Western Oil, No. 8 C.C., Round Mountain, Kern	12-28-28	1,942	pump. 720 b.d.
Cal-Western Oil, No. 9 C.C., Round Mountain, Kern	12-28-28	1,781	sd. sh. drlg.
Vedder, D. G., No. 1 McDonald, Round Mtn., Kern	12-28-28	1,886	O.S. drlg.
Marcan Oil, No. 1 C.L., Round Mountain, Kern Co.	12-28-28	1,948	O.S. drlg.
L. A. Const., No. 1 Tavis, Round Mountain, Kern Co.	4-29-29	3,825	idle
Standard Oil, No. 27 Kern Front, Kern Co.	15-28-27	2,010	gr. sd. drlg.
Standard Oil, No. 8 Ward, Kern Front, Kern Co.	24-28-27	1,990	pump. 195 b.d.
California Star Oil, No. 3-80 Kern Front, Kern Co.	22-28-27	2,755	rig. to pump
Kern River Oilfields, No. 25-3B Kern Front, Kern Co.	25-28-27	1,866	cleaning out
Union Oil, No. 8 Del Rey, Kern Front, Kern Co.	11-28-27	1,840	pump. 25 b.d.
Fuhrman, A., No. 11 Kern River, Kern Co.	28-28-28	660	sd. sh. drlg.
Morrison, C. S., No. 14-H, Kern River, Kern Co.	2-29-28	275	gr. sd. drlg.
Ring Oil, No. 3 Shapiro, Mount Poso, Kern Co.	32-26-28	1,760	rig. to pump
Sunset Oil, No. 3-1 Wells, Mount Poso, Kern Co.	3-27-28	1,584	sd. sh. drlg.
Texas Co., No. 6 Glide, Mount Poso, Kern Co.	15-27-28	1,745	O.S. drlg.
Travis, P. J., No. 1 Giffen, Mount Poso, Kern Co.	10-27-28	1,340	sd. sh. drlg.
Vedder Pet., No. 29-2 Lambert, Mount Poso, Kern Co.	29-26-28	1,778	pump. 100 b.d.
Pacific O. & G., No. 2 Davidson, Mount Poso, Kern Co.	36-27-27	2,910	dry; abd.
Bargol Oil, No. 3 Newhope, Mount Poso, Kern Co.	11-27-27	1,243	pump. water
Framac Oil, No. 1 Brown, Mount Poso, Kern Co.	22-27-27	1,351	cleaning out
Summit Oil, No. 1 Glide, Mount Poso, Kern Co.	31-27-28	1,298	sd. sh. drlg.
Western Gulf Oil, No. 29 KCL, Fruitvale, Kern Co.	14-29-27	3,060	sd. sh. drlg.
Section Six Oil, No. 1 Johnstone, Mtn. View, Kern	6-31-29	6,837	sd. sh. drlg.
American Exploration, No. 1-G Mountain View, Kern	18-30-29	4,771	flow. 75 b.d.
Vesta Oil, No. 12 Mountain View, Kern Co.	19-30-29	5,100	swabbing.
Hogan Pet., No. 5 Symons, Mountain View, Kern Co.	4-31-29	6,129	P.B. 5,975
Hogan Pet., No. 5 Bankline, Mountain View, Kern Co.	4-31-29	4,195	sd. sh. drlg.
Westbrook Oil, No. 1 Edison, Kern Co.	4-30-29	3,557	rig. to pump
General Petroleum, No. 1 Houchin, Arvin, Kern Co.	27-31-29	7,928	P.B. 7,490
Petrex, Inc., No. 1 Arvin, Kern Co.	32-31-30	1,971	sd. sh. drlg.
Union Oil, No. 2-34 KCL, Rio Bravo, Kern Co.	34-28-25	151	sd. sh. drlg.
Continental Oil, No. 1 Rosedale, Kern Co.	12-29-26	10,210	cmtd. 7,766
Superior Oil, No. 1 Krause, Greeley, Kern Co.	21-29-26	7,000	sd. sh. drlg.
Superior Oil, No. 9 KCL, Greeley, Kern Co.	3-30-26	7,870	cleaning out
Superior Oil, No. 10 KCL, Greeley, Kern Co.	3-30-26	7,680	sd. sh. drlg.
Standard Oil, No. 11-2 KCL, Greeley, Kern Co.	20-29-26	8,339	will deepen
Standard Oil, No. 11-8-A KCL, Greeley, Kern Co.	18-29-26	2,154	sd. sh. drlg.
Standard Oil, No. 11-9 KCL, Greeley, Kern Co.	20-29-26	7,797	flow. gas
Standard Oil, No. 11-11 KCL Greeley, Kern Co.	17-29-26	6,591	sd. sh. drlg.
Standard Oil, No. 11-12 KCL, Greeley, Kern Co.	20-29-26	3,880	sd. sh. drlg.
Standard Oil, No. 17-1 KCL, Greeley, Kern Co.	9-29-26	7,410	sd. sh. drlg.
Standard Oil, No. 15-1 KCL, Ten Section, Kern Co	27-30-26	7,825	sd. sh. drlg.
Shell Oil, No. 8-28-A KCL, Ten Section, Kern Co.	28-30-26	7,825	sd. sh. drlg.
Shell Oil, No. 36-30-A KCL, Ten Section, Kern Co.	30-30-26	8,139	sd. sh. drlg.
Shell Oil, No. 27-30-B KCL, Ten Section, Kern Co.	30-30-26	2,598	sd. sh. drlg.
Shell Oil, No. 72-14-A KCL, Strand, Kern Co.	14-30-25	1,991	sd. sh. drlg.
Standard Oil, No. 1 Magunden, Kern Co.	2-30-29	5,373	reaming
Monticello Oil, No. 4 Midway-Sunset, Kern Co.	27-31-22	1,544	cleaning out
U. S. Pump & Equip, No. 2 Midway-Sunset, Kern Co.	12-11-24	1,775	P.B. 1,730
C. C. M. Oil, No. 55-21 Midway-Sunset, Kern Co.	21-32-23	2,750	hd. sh. drlg.
Pattiway Oil, No. 3 Midway-Sunset, Kern Co.	12-11-24	1,596	rig. to pump
Hallmark Oil, No. 9 Midway-Sunset, Kern Co.	25-12-24	2,701	rig. to pump
Standard Oil, No. 127-33-D Midway-Sunset, Kern Co.	33-32-24	2,815	O.S. drlg.
Victor Oil, No. 1 Midway-Sunset, Kern Co.	35-32-23	1,173	sd. sh. drlg.
Ethel D Oil, No. 2-A Midway-Sunset, Kern Co.	36-12-24	609	sd. sh. drlg.
National Oil, No. 30 Midway-Sunset, Kern Co.	35-32-23	2,285	hd. sd. drlg.
Gibson Oil, No. 5 O'Brien, Midway-Sunset, Kern Co.	6-11-23	2,810	P.B. 2,408
Texas Co., No. 1 Pioneer, Midway-Sunset, Kern Co.	33-11-23	5,161	gr. sd. drlg.
Texas Co., No. 25 Midway-Sunset, Kern Co.	32-32-24	3,170	will deepen
Texas Co., No. 28 Midway-Sunset, Kern Co.	32-32-24	3,276	P.B. 3,220
Texas Co., No. 29 Midway-Sunset, Kern Co.	32-32-24	3,040	sd. sh. drlg.
Richfield Oil, No. 3-H-A Elk Hills, Kern Co.	1-31-24	2,970	cmtd. 2,914

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St. sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting for cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Ohio Oil, No. 2-D Tejon, Kern Co.	23-11-19	2,696	sd. sh. drlg.
Universal Oil, No. 1 Tejon, Kern Co.	33-11-19	3,264	sd. sh. drlg.
Honolulu Oil, No. 33-1 SP, Tejon, Kern Co.	33-12-19	3,195	sd. sh. drlg.
Bergman, Harry, No. 1 Dos Palos, Fresno Co.	12-12-11	6,138	idle
Pure Oil, No. 1 Cantua, Fresno Co.	31-18-17	8,751	sd. sh. drlg.
Dauphin Dev., No. 1 Alcade, Fresno Co.	30-21-14	2,690	br. sh. drlg.
Jacalitos Oil, No. 1 Jacalitos, Fresno Co.	14-21-15	5,180	sd. sh. drlg.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	11,746	fish. D.P.
K. N. D. A., No. 43-34-J Kettleman North, Fresno Co.	34-21-17	7,960	C.P. 7,825
K. N. D. A., No. 83-4-P Kettleman North, Fresno Co.	4-22-17	7,399	gr. sd. drlg.
K. N. D. A., No. 27-12-P Kettleman North, Kings Co.	12-22-17	7,184	sd. sh. drlg.
K. N. D. A., No. 38-12-P Kettleman North, Kings Co.	12-22-17	6,265	br. sh. drlg.
K. N. D. A., No. 6-6-Q Kettleman North, Kings Co.	6-22-18	8,550	sd. sh. drlg.
K. N. D. A., No. 27-6-Q Kettleman North, Kings Co.	6-22-18	8,350	sd. sh. drlg.
Standard Oil, No. 27-21-J Kettleman North, Fresno	21-21-17	7,895	sd. sh. drlg.
Standard Oil, No. 27-33-J Kettleman North, Fresno	33-21-17	8,530	sd. sh. drlg.
Standard Oil, No. 2-11-P Kettleman North, Kings Co.	11-22-17	7,571	sd. sh. drlg.
Standard Oil, No. 76-1-P Kettleman North, Kings Co.	1-22-17	6,796	br. sh. drlg.
Standard Oil, No. 21-13-P Kettleman North, Kings Co.	13-22-17	5,290	sd. sh. drlg.
Superior Oil, No. 1 Huffman, Kettleman No., Fresno	29-21-17	10,335	coring ahead
Bandini Pet., No. 5 Whepley, Kettleman No., Fresno	35-21-17	8,387	cleaning out
Temblor Oil, No. 1-B Kettleman Middle, Kings Co.	25-23-18	9,052	hd. sh. drlg.
Pyramid Prod., No. 1 Pyramid Hills, Kings Co.	27-24-18	1,255	idle
Amerada Pet., No. 1 Carano, Los Banos, Merced Co.	19-10-11	5,765	hd. sh. drlg.
Little Cuyama Oil, No. 1 Adelaide, San Luis Obispo	3-10-26	3,150	sd. sh. drlg.
Elba Oil, No. 1 Pajaro, Monterey Co.	6-13-26	4,009	cleaning out
Standard Oil, No. 2 Weyl, McDonald Is., San Joaquin	25- 2-4	6,134	gr. sd. drlg.
Standard Oil, No. 1 Morris, Delano, Tulare Co.	36-24-23	10,450	hd. sh. drlg.
Wilcox, J. F., No. 1 Sears, Tulare Co.	29-24-28	1,000	sd. sh. drlg.
Standard Oil, No. 1 Hooper, Woodland, Yolo Co.	32- 9-1	3,700	shut in
Empire O. & G., No. 1 Woodland, Yolo Co.	8- 9-3	300	sd. sh. drlg.
Wilshire Oil, No. 1 Half Moon Bay, San Mateo Co.	20- 6-5	4,230	sd. sh. drlg.
Ohio Oil, No. 1 Willard, Glenn Co.	18-20-2	1,654	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Richfield Oil, No. 2 SF El Segundo, Los Angeles Co.	7- 3-14	7,097	sd. sh. drlg.
Richfield Oil, No. 1-M, El Segundo, Los Angeles Co.	12- 3-15	7,189	Schist; drlg.
Richfield Oil, No. 2-M, El Segundo, Los Angeles Co.	12- 3-15	5,768	sd. sh. drlg.
Richfield Oil, No. 1-R, El Segundo, Los Angeles Co.	18- 3-14	5,861	sd. sh. drlg.
Sunshine Oil, No. 1 G.W. El Segundo, Los Angeles Co.	12- 3-15	6,580	sd. sh. drlg.
Sunshine Oil, No. 1 C.W. El Segundo, Los Angeles Co.	12- 3-15	7,196	sd. sh. drlg.
Sunshine Oil, No. 2 C.W. El Segundo, Los Angeles Co.	12- 3-15	6,785	sd. sh. drlg.
Sunshine Oil, No. 1-W El Segundo, Los Angeles Co.	12- 3-15	6,981	sd. sh. drlg.
Apex Pet., No. 1 Elsie, El Segundo, Los Angeles Co.	12- 3-15	7,103	flow. 1,375 b.d.
Tide Water A. O., No. 1 El Segundo, Los Angeles Co.	9- 3-14	8,009	hd. sh. drlg.
Ohio Oil, No. 9 Gough,, El Segundo, Los Angeles Co.	7- 3-14	7,320	flow. 450 b.d.
Ohio Oil, No. 10 Gough, El Segundo, Los Angeles Co.	7- 3-14	5,990	sd. sh. drlg.
Ruchti Pet., No. 1 El Segundo, Los Angeles Co.	12- 3-15	7,099	flow. 475 b.d.
Standard Oil, No. 4 Ref., El Segundo, Los Angeles	13- 3-15	7,474	cleaning out
Standard Oil, No. 5 Ref., El Segundo, Los Angeles	13- 3-15	7,185	sd. sh. drlg.
Standard Oil, No. 6 Ref., El Segundo, Los Angeles	13- 3-15	7,098	sd. sh. drlg.
Getty Oil, No. 1-A El Segundo, Los Angeles Co.	7- 3-14	7,476	pump. 180 b.d.
Howard Oil, No. 1 El Segundo, Los Angeles Co.	12- 3-15	6,071	sd. sh. drlg.
Lakeside Oil, No. 10-1 Elsie, El Segundo, Los Angeles	12- 3-15	6,196	sd. sh. drlg.
Wilshire Oil, No. 9-1 Elsie, El Segundo, Los Angeles	12- 3-15	7,060	sd. sh. drlg.
Wilshire Oil, No. 9-2 Elsie, El Segundo, Los Angeles	12- 3-15	7,130	Schist; drlg.
Standard Oil, No. 12 Rubel, Inglewood, Los Angeles	17- 2-14	2,531	rig. to pump
Standard Oil, No. 84 LAI, Inglewood, Los Angeles Co.	17- 2-14	1,560	sd. sh. drlg.
C. C. M. Oil, No. 33-T Torrance, Los Angeles Co.	16- 6-14	4,350	sd. sh. drlg.
Kavanaugh, E. C., No. 1 Palos Verdes, Los Angeles	17- 4-14	5,240	recmtd. 5,175
Rolling Hills Pet., No. 1 Palos Verdes, Los Angeles	27- 4-14	581	sd. sh. drlg.
Tide Water A. O., No. 4 Cypress, Potrero, Los Angeles	34- 2-14	5,813	will P.B.
Shell Oil, No. 92 Reyes, Dominguez, Los Angeles Co.	33- 3-13	7,860	P.B. 7,732
Union Oil, No. 51 Callender, Dominguez, Los Angeles	33- 3-13	4,350	sd. sh. drlg.
Union Oil, No. 56 Callender, Dominguez, Los Angeles	33- 3-13	9,625	sd. sh. drlg.
Union Oil, No. 57 Callender, Dominguez, Los Angeles	33- 3-13	7,185	sd. sh. drlg.
Union Oil, No. 10 Carson, Dominguez, Los Angeles	33- 3-13	7,062	sd. sh. drlg.
Selbar Oil, No. 1 Harris, Dominguez, Los Angeles Co.	33- 3-13	4,905	redrlg. 2,125
Barnsdall Oil, No. 18 O'Dea, Rosecrans, Los Angeles	18- 3-13	7,595	cleaning out
Union Oil, No. 35 H.P. Rosecrans, Los Angeles Co.	18- 3-13	8,335	sd. sh. drlg.
War-Mil Pet., No. 1 Moss, Rosecrans, Los Angeles Co.	18- 3-13	93	idle
Texas Co., No. 5-1 Gardena, Los Angeles Co.	30- 3-13	3,180	sd. sh. drlg.
Barnsdall Oil, No. 2-S.F. Newhall, Los Angeles Co.	26- 4-17	5,084	redrlg. 4,851
Burt, A. G., No. 1 Newhall, Los Angeles Co.	36- 4-17	2,471	hd. sd. drlg.
Royal Lands, No. 1 Ramona, Castaic, Los Angeles Co.	8- 4-17	821	hd. sd. drlg.
General Pet., No. 5 Isco, Wilmington, Los Angeles Co.	4- 5-13	5,520	sd. sh. drlg.
General Pet., No. 11-T Wilmington, Los Angeles Co.	4- 5-13	1,941	sd. sh. drlg.
Allied Pet., No. 26, Wilmington, Los Angeles Co.	32- 4-13	3,552	sd. sh. drlg.
Bankline Oil, No. 7-D.H., Wilmington, Los Angeles	34- 4-13	3,181	sd. sh. drlg.
Bankline Oil, No. 12-D.H., Wilmington, Los Angeles	34- 4-13	3,154	sd. sh. drlg.
Bankline Oil, No. 24-D.H., Wilmington, Los Angeles	34- 4-13	3,312	flow. 470 b.d.
Bankline Oil, No. 2-J.C., Wilmington, Los Angeles	34- 4-13	1,872	sd. sh. drlg.
Baker Oil, No. 1 Wilmington, Los Angeles Co.	35- 4-13	3,502	redrlg. 2,980
Black Gold, No. 6 Wilmington, Los Angeles Co.	33- 4-13	2,591	sd. sh. drlg.
Caminol Co., No. 2 Comm. Wilmington, Los Angeles	32- 4-13	2,665	sd. sh. drlg.
Colter & McAdoo, No. 2 Wilmington, Los Angeles Co.	32- 4-13	1,996	sd. sh. drlg.
Kreiger Oil, No. 1 K.W. Wilmington, Los Angeles Co.	32- 4-13	2,141	sd. sh. drlg.
Pacific Western Oil, No. 1-R Wilmington, Los Angeles	33- 4-13	5,700	flow. 310 b.d.
Pongratz, No. 1 Webb, Wilmington, Los Angeles Co.	32- 4-13	2,780	sd. sh. drlg.
Raleigh Oil, No. 1 Patten, Wilmington, Los Angeles	33- 4-13	3,646	flow. 280 b.d.
Royalty Serv., No. 22-7 Wilmington, Los Angeles Co.	33- 4-13	3,604	flow. 395 b.d.
Royalty Serv., No. 1-F Wilmington, Los Angeles Co.	33- 4-13	935	sd. sh. drlg.
Royalty Serv., No. 1-H Wilmington, Los Angeles Co.	32- 4-13	3,555	sd. sh. drlg.
Royalty Serv., No. 1-K Wilmington, Los Angeles Co.	33- 4-13	3,644	sd. sh. drlg.
Selegna Drlg., No. 10 Wilmington, Los Angeles Co.	33- 4-13	5,810	sd. sh. drlg.
Union Pacific, No. 47 Wilmington, Los Angeles Co.	3- 5-13	4,065	flow. 6,951 b.d.
Union Pacific, No. 53 Wilmington, Los Angeles Co.	34- 4-13	2,140	sd. sh. drlg.
Union Pacific, No. 54 Wilmington, Los Angeles Co.	4- 5-13	3,484	sd. sh. drlg.
Union Pacific, No. 56 Wilmington, Los Angeles Co.	4- 5-13	3,572	flow. 938 b.d.
Union Pacific, No. 59 Wilmington, Los Angeles Co.	4- 5-13	2,796	sd. sh. drlg.
Union Pacific, No. 66 Wilmington, Los Angeles Co.	34- 4-13	2,953	sd. sh. drlg.
Union Pacific, No. 67 Wilmington, Los Angeles Co.	34- 4-13	3,316	flow. 585 b.d.
Union Pacific, No. 68 Wilmington, Los Angeles Co.	34- 4-13	2,844	sd. sh. drlg.
Union Pacific, No. 69 Wilmington, Los Angeles Co.	34- 4-13	2,182	sd. sh. drlg.
Wilbur, V. R., No. 2-S.F., Wilmington, Los Angeles	33- 4-13	3,195	rd. sh. drlg.
Wilmington Oil, No. 2 Wilmington, Los Angeles Co.	32- 4-13	2,594	sd. sh. drlg.
Alford Oil, No. 3-C.Y. Wilmington, Los Angeles Co.	22- 4-13	4,097	sd. sh. drlg.
Ramsey, W. E., No. 1 Repetto Hills, Los Angeles Co.	27- 1-12	540	sd. sh. drlg.
Davis, No. 1 Garvey Ranch, Montebello, Los Angeles	22- 2-11	560	sd. sh. drlg.
Texas Co., No. 18 Baldwin, Montebello, Los Angeles	5- 2-11	5,051	hd. sd. drlg.
St. Helens Pet., No. 20-M, Montebello, Los Angeles Co.	6- 2-11	6,371	sd. sh. drlg.
Union Oil, No. 2 Flood Control, Los Angeles Co.	13- 4-13	3,960	sd. sh. drlg.
Union Oil, No. 3 Flood Control, Los Angeles Co.	13- 4-13	4,000	O.S. drlg.
Abrams, John, No. 1 Flood Control, Los Angeles Co.	13- 4-13	2,675	sd. sh. drlg.
Texas Co., No. 4 Bauman, Long Beach, Los Angeles	19- 4-12	4,756	pump. 90 b.d.
Texas Co., No. 14 Hariow, Long Beach, Los Angeles	19- 4-12	4,650	bailing
Shell Oil, No. 1 Hath., Long Beach, Los Angeles Co.	28- 4-12	3,650	sd. sh. drlg.
Rico Pet., Inc., No. 1 Long Beach, Los Angeles Co.	30- 4-12	4,080	redrlg. 3,540
Richfield Oil, No. 11 Denni, Long Beach, Los Angeles	29- 4-12	2,754	sd. sh. drlg.
Richfield Oil, No. 4 Keon, Long Beach, Los Angeles	29- 4-12	4,400	sd. sh. drlg.
Clayton, G. L., No. 1 North Long Beach, Los Angeles	32- 3-12	6,240	idle
Union Oil, No. 100 Santa Fe Springs, Los Angeles Co.	6- 3-11	11,300	sd. sh. drlg.
General Pet., No. 37-A Santa Fe Springs, Los Angeles	6- 3-11	3,785	pump. 230 b.d.
Texas Co., No. 7-W Santa Fe Springs, Los Angeles Co.	6- 3-11	6,692	sd. sh. drlg.
Continental Oil, No. 40 Bixby, Seal Beach, Orange Co.	2- 5-12	7,501	P.B. 6,556
Lido Pet., No. 2 Severns, Huntington, Orange Co.	34- 5-11	4,405	redrlg. 3,461
Shell Oil, No. 4-1 Columbia, Olinda, Orange Co.	9- 3-9	7,600	hd. sd. drlg.
Brea Canyon Oil, No. 36 Brea Canyon, Orange Co.	2- 3-10	4,552	fish. D.P.
Standard Oil, No. 127 Murphy, West Coyote, Orange	18- 3-10	3,240	cmtd. 3,224
Severns Drlg., No. 2 McNally, West Coyote, Orange	18- 3-10	7,272	cleaning out
Texas Co., No. 2 Isaacs, Richfield, Orange Co.	32- 3-9	3,458	pump. 60 b.d.
Union Oil, No. 46 Chapman, Richfield, Orange Co.	29- 3-9	4,400	pump. 145 b.d.
Union Oil, No. 29 Chapman, Richfield, Orange Co.	29- 3-9	8,895	resume work
Oil Income, No. 1 Anderson, Yorba, Orange Co.	22- 3-9	1,803	bailing
Hjorth & Mohr, No. 1 Yorba, Orange Co.	22- 3-9	1,403	P.B. 1,345
Berco Oil, No. 1 Milhous, Yorba, Orange Co.	22- 3-9	1,435	hd. sd. drlg.
Angelus Oil, No. 1 Jacobs, Yorba, Orange Co.	22- 3-9	1,685	O.S. drlg.
Bachman Pet., No. 1 Page, Yorba, Orange Co.	22- 3-9	1,620	bailing
Shell Oil, No. 1-H Anaheim, Orange Co.	9- 4-10	7,901	sd. sh. drlg.

KANSAS

Week Ending December 4 (Descriptions are East unless marked otherwise)

Barber County

Kansas Oil Corp. No. 1 Mease, NE SE SE sec. 27-30-11w. T.D. 4,444 ft.; 7-in. 4,438 ft.

Olson Oil Co. and Skelly Oil Co. No. 1 Elsea, SW SE NW sec. 27-32-14w. Sil. 5,225-48 ft.; T.D.; P.B. 4,844 ft.; perf. csg.; D.&A.

Palmer Oil Corp. et al No. 1 Warwick, C NW sec. 29-31-10w. Rig.

Pryor & Lockhart No. 1 Pickens, CWL E½ SW sec. 34-30-13w. T.D. 1,900 ft.; set 10-in.

Barton County

Elmer Ash et al No. 1 Frees, NW cor. sec. 34-16-11w. Drlg. 440 ft.

R. E. Day et al No. 1 Felts, SE SE NE sec. 14-16-12w. Drlg. 120 ft.

Lauck & Moncrief and Vernon O. & G. Co. No. 1 Rodenburg, NE SE SW sec. 6-17-12w. Set 10-in. 351 ft.

Martin & Foraker et al No. 1 Dick Est., NE SW SW sec. 31-19-11w. Rig.

Arch Merriman et al No. 1 Norris, NE NE NW sec. 33-17-11w. H.F.W. 3,351-54 ft., T.D.; D.&A.

C. L. Price No. 1 Hammeke, NE NE SW sec. 12-18-12w. Sil. 3,415-27 ft.; 1,800 ft. O.I.H.; bails 4 bbls. wtr. every other day.

Shell Pet. Corp. No. 1 Eckart, SE SE SW sec. 13-16-14w. R.U.R.

Shell Pet. Corp. No. 1 Ehrlich, SW cor sec. 1-16-14w. Sil. 3,267 ft.; T.D. 3,296 ft.; swb. 24 B.O. in 1 hr.

Stanolind O. & G. Co. No. 1 Hagen A, SE sec. 21-20-11w. Sil. 3,328 ft.; T.D. 3,333 ft.; D.&A.

Chautauqua County

C. L. Brosius et al No. 1 Garrett, NW SW NW sec. 26-32-11. H.F.W. 2,076 ft., T.D.; P.B. 1,545 ft.; shot; D.&A.

W. G. Buffington No. 1 Fisher, CWL SW NW sec. 10-34-9e. T.D. 1,679 ft.; est. 25 B.O.P.D.; comp.

Harrison No. 1 Brown, NE SE NE sec. 19-34-10. S.D. 820 ft.

Ingot Oil Co. No. 1 McKee, SW NE SW sec. 21-32-12. T.D. 1,209 ft.; pmp. 2 B. O. and 2 B.W. daily; comp.

I. W. Siegel No. 1 Temple, SW cor. sec. 31-32-12. Drlg. 400 ft.

Clark County

Olson Oil Co. No. 1 Lehman, SE SW sec. 20-32-31w. Drlg. 2,315 ft.

Olson Oil Co. et al No. 1 Watkins, SW NW sec. 23-32-21w. Cg. 5,265 ft.

Cowley County

Arthur Brewer No. 1 Shepard, NE NE SE sec. 20-32-4e. Rng. 8-in. 2,213 ft.

Dickey Oil Co. No. 1 Kansas G. & E., NE cor. sec. 22-34-3e. Drlg. 2,040 ft.

Murta & Wilson et al No. 1 Stuber, SE NE NE sec. 27-30-5e. U.R. 8-in. 2,110 ft.

Pryor & Lockhart No. 1 Brown, NE SE SE sec. 34-33-2e. Sil. 3.853-64 ft., T.D.; P.B. 3,403 ft.; C.O. 3,402 ft.

Roth et al No. 1 Fry, NW SW SW sec. 8-31-3e. Drlg. 1,150 ft.

Smith & Price No. 1 Henderson, SW SW sec. 25-32-6. T.D. 2,565 ft.; W.O. 6-in. csg.

Earl Wakefield No. 1 Whitson, SW NE SE sec. 8-32-4e. Set 10-in. 1,670 ft., T.D.; C.O.

Ellis County

Bradley Oil Co. No. 1 Jenson, NW NW SE sec. 36-11-19w. Drlg. 3,415 ft.

C. L. Carlock No. 1 Heyle, SE NW sec. 14-13-16w. Spd.

Colonial Oil Co. and Bernheimer No. 1 Albert, SW SW NE sec. 31-12-18w. Set 7-in. 3,390 ft.; C.O.

Continental Oil Co. No. 1 Baumrucker, NE SW sec. 25-14-16w. Drlg. 1,810 ft.

Helmerich & Payne No. 1 Stebbins, NW SE sec. 7-13-20w. Drlg. 2,860 ft.

J. J. Muth et al No. 1 Penney, C N¼ NE SE sec. 29-14-18w. O.W.D.D.; S.D. 350 ft.

P. G. Reynolds et al No. 1 Karlin, NW cor. sec. 13-12-18w. U.R. 6-in. 3,545 ft.

C. E. W. Skiles et al No. 1 Jensen, SW SE NE sec. 26-12-18w. S.D. 2,910 ft.

Watchorn O. & G. Co. No. 1 Brown, NE SE sec. 34-13-17w. Drlg. 1,390 ft.

Ellsworth County

Hinkle et al No. 1-A Andrea, NE SE sec. 7-17-10w. Drlg. 1,790 ft.

Ford County

Olson Oil Co. et al No. 1 Fowler, C SW sec. 26-27-22w. Drlg. 5,745 ft.

Greenwood County

Eagle Oil Co. No. 1 Stine, NE NE SE sec. 13-28-10. T.D. 740 ft.; abd.

John Nichols et al No. 1 Central Life, SE SW sec. 35-25-12. Spd. and S.D.

Whittaker & Johnson No. 1 Cannon, CEL SE NW sec. 8-26-13. Set 6-in. 1,185 ft.; fsg.

Harvey County

Allison et al No. 1 Hawks, SE SW NE sec. 16-24-1w. Drlg. 2,767 ft.

Jackson County

Lemmick Oil Co. No. 1 Marble Savings Bank, NE cor. sec. 26-9-14. Spd. and S.D.

Marion County

Tom Palmer, Inc. No. 1 Matz, SW SE SE sec. 8-19-1e. Drlg. 2,760 ft.

McPherson County

C. E. Ash Drlg. Co. No. 1 Broman, NE NE NW sec. 18-17-4w. Wilcox 3,724 ft.; H. F.W. 3,730 ft., T.D.; D.&A.

Boyle & Grossman No. 1 Diener, SE SE NE sec. 35-19-1w. Drlg. 2,755 ft.

Carter Oil Co. No. 1 Hoglund, C W½ SW NW sec. 8-17-3w. Drlg. 2,405 ft.

Dole-Park Dev. Co. No. 1 Doles, NE NW NE sec. 12-19-1w. T.D. 2,869 ft.; est. 1,000,000 ft. gas and H.F.W.

Phillips Pet. Co. No. 1 Galle, NW NE sec. 11-21-2w. Drlg. 2,610 ft.

Meade County

Pacific Mid-West Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. Drlg. 950 ft.

Ness County

Continental Oil Co. No. 1 Olson, SW NW SE sec. 5-18-25w. Drlg. 2,500 ft.

Marshall Drlg. Co. et al No. 1 Anderson, SW NW sec. 23-16-24w. Spd. and S.D.

Trojan O. & G. Co. No. 1 Moses, C SW NW sec. 10-18-25w. C.O. 500 ft.

Trojan O. & G. Co. No. 1 Page Milling Co., SE SE NW sec. 36-18-26w. Fsg. 3,285 ft.

Pawnee County

Phillips Pet. Co. No. 1 Johnson, C NE NW sec. 8-20-19w. Fsg. 3,883 ft.

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Jantz, SW cor. sec. 25-20-16w. Sil. 3,804 ft.; T.D. 3,822 ft.; showing wtr.

Phillips County

C. W. Davidson et al No. 1 Elliff, SE NE NE sec. 35-5-18w. S.D. 350 ft.

Pratt County

Penn Drlg. Co. et al No. 1 Holland, SW NW SE sec. 6-26-12w. Sil. 4,322-40 ft., T.D.; D.&A.

Skelly Oil Co. et al No. 1 Adams, SE NW NE sec. 2-28-11w. Wilcox 4,287 ft.; lost tools at 4,300 ft.; drlg. by.

Reno County

Albert Austin No. 1 Schwiethale, SW SW NE sec. 17-23-10w. Sil. 3,762-90 ft., T.D.; D.&A.

Carey et al No. 1 McPheeters, NE NW sec. 22-26-8w. C.O. 408 ft.

Sam Schneider et al No. 1 Kroecker, NE cor. sec. 12-22-5w. Drlg. 3,830 ft.

Westgate-Greenland et al No. 1 Popp, SW SW NE sec. 7-25-4w. Drlg. 3,720 ft.

Rice County

Gillespie et al No. 1 Strong, NE NW sec. 9-18-8w. Spd. and S.D.

John Hanna et al No. 1 Marshall, NE NW NW sec. 30-18s-8w. S.D. 1,530 ft.

Fred Phillips et al No. 1 Oden, SE NE NW sec. 22-20-7w. Sil. 3,720-42 ft., T.D.; D.&A.

Skiles et al No. 1 Campbell, SE SE NE sec. 28-19-9w. T.D. 2,957 ft.; S.D.

W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. Pay sd. 3,338 ft.; T.D. 3,345 ft.; flwd. 5 to 10 B.P.H.

Rooks County

C. R. Craft et al No. 1 Ziegler, NE SW sec. 8-10-16w. Set 6-in. 3,457 ft.; U.R.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. T.D. 3,326 ft. pmpd. 50 B.O. and 35 B.W. in 8 hrs.; fsg.

Producers Oil Co. No. 1 Ham, SW SW NW sec. 25-7-19w. S.D. 200 ft.

Producers Oil Co. No. 1 Tucker, SW SE NW sec. 23-10-17w. Drlg. 2,725 ft.

Ross Oil Co. et al No. 1 Hancock, NE NW sec. 5-10-17w. Drlg. 1,390 ft.

Texas Co. No. 1 McCarroll, C W½ W½ NW sec. 29-10-17w. T.D. 4,193 ft.; D.&A.
Texo Trading Co. No. 1 Probst, SW SW NE sec. 18-6-19w. Drlg. 2,880 ft.

Rush County

Duwe & Brouk No. 1 Lebsack, SE SE NE sec. 13-16-16w. Sil. 3,492-95 ft.; 1,500 ft. sulfur water in hole in 2½ hrs.; T.D. 1,512 ft.; S.D.O.
Wakefield & Brouk No. 1 Kerbs, NW NW SE sec. 11-17-16w. Drlg. 2,235 ft.

Russell County

Emrichs et al No. 1 Anderson, NE SE SW sec. 33-15-11w. Spd. and S.D.
Jones & Shelburne No. 1 Short, NE cor. sec. 12-15-12w. Fsg. 1,700 ft.
Murfin and Vernon O. & G. Co. No. 1 Pearson, NE cor. sec. 31-15-15w. Drlg. 2,885 ft.
Phil-Han & Hinkle No. 1 Reinhardt, SE SW sec. 19-14-14w. Drlg. 1,020 ft.
C. L. Price No. 1 Sebesta, NE NE sec. 36-15-11w. Sil. 3,314-3,435 ft., T.D.; D.&A.
Winkler & Koch No. 1 Jones, SE SE NW sec. 22-14-13w. Sil. 3,180 ft.; S.D.O.

Sedgwick County

Frank Hudson et al No. 1 Fulton, NE SE sec. 35-28-1e. Fsg. 1,550 ft.
McKnab No. 1 Garrett, SE SW SW sec. 18-29-2e. S.D. 100 ft.
I. W. Murfin et al No. 1 Martin, SE NW sec. 32-28-1e. T.D. 3,491 ft.; acd.; swb. 45 B.O. in 24 hrs.
National Ref. Co. No. 1 fee, SE NE SE sec. 26-27-2e. T.D. 3,099 ft.; P.B. 3,098 ft.; pot. 189 B.O.; comp.
M. Steinbuchel et al No. 1 Shaffer, SW SW NW sec. 18-25-1e. Drlg. 3,260 ft.
Union O. & R. Co. et al No. 1 Howell, SW cor. sec. 6-29-1e. T.D. 2,400 ft.; S.D.

Stafford County

Hipple et al No. 1 Moses, NW SW sec. 9-22-13w. Drlg. 3,175 ft.
Lindsay & Bailiere et al No. 1 Tiepermann, SW SW NW sec. 31-22-12w. Drlg. 2,860 ft.
Tom Palmer No. 1 Feir, SE NE SW sec. 10-22-11w. S.D. 3,625 ft.
Stanolind O. & G. Co. No. 1 Tiechman, SE cor. sec. 13-22-13w. T.D. 3,744 ft.; P.B. 3,733 ft.; D.&A.
Stanolind O. & G. Co. No. 1 Wadsack, SW SW NE sec. 4-25-11w. Drlg. 2,950 ft.
Torry & Feaster et al No. 1 McConnaughay, NE SE NW sec. 8-24-13w. Sil. 4,130 ft.; T.D. 4,155 ft.; D.&A.
Torry & Feaster et al No. 1 Negley, SW SW NE sec. 23-22-12w. R.U.R.

Sumner County

Cities Service Oil Co. No. 1 McCoy, SE SW sec. 11-35-2e. Drlg. 3,690 ft.
W. M. McKnab No. 1 Blair, SW cor. sec. 7-30-1e. T.D. 3,889 ft.; swbs. 75 to 100 B.O.P.D.
Saco Oil Co. No. 1 Phipps, SW SE NE sec. 24-30-1w. Spd. and S.D.
R. J. Wixson No. 1 Newton, SE SE sec. 21-30-2e. Drlg. 3,220 ft.

Trego County

Carlock No. 1 Kinzel, SW SW sec. 9-13-22w. Spd. and S.D.

Woodson County

Chas. Reeser et al No. 1 Weide, NW SE sec. 18-25-14. Wtr. 1,556 ft.; T.D., D.&A.

NEBRASKA WILDCATS

L. R. Page et al No. 1 Bonham, C SE SE sec. 31-1n-1e, Jefferson County. Drlg. 2,810 ft.
Arab Pet. Corp. et al No. 1 Ogle, SE SE sec. 9-1n-14e. Viola 3,019 ft.; Granite sec. 9-1n-14e, Richardson County. Viola 3,019 ft.; Granite 3,423 ft., T.D.; P.B. to Viola.

OKLAHOMA

Week Ending December 4

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1-A Biscoe, SW cor. sec. 28-8-22w. Drlg. sd. 2,228 ft.

Caddo County

Indian Terr. Illum. Oil Co. No. 1 Dome-Bo, C NE SE sec. 29-6-10w. Cd. 6,066-80 ft., T.D. sd.&sh.; rng. Halliburton test.

Cleveland County

Harper-Turner No. 1 Pollock, C W½ NW NW sec. 13-9-2w. T.D. 6,850 ft.; fsg.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. T.D. 3,018 ft.; 2,000 ft. W.I.H. and S.S.O.; S.D.

Garfield County

H. R. Hollenback et al No. 1 Clark, NW cor. sec. 34-21-6w. Drlg. 5,626 ft.

Garvin County

B. C. D. Edwards No. 1 Clark, NE cor. sec. 16-3n-3e. T.D. 2,676 ft.; run 7-in. to 2,132 ft.; to perf.

Grady County

Doyle Pet. Co. No. 1 Huffine, NW NW SE sec. 30-5-8w. Drlg.
Gulf Oil Corp. No. 1 Thomas, SW NW NW sec. 14-4-5w. T.D. 9,156 ft.; lost cir.

Grant County

Magnolia Pet. Co. No. 1 Reynolds, NE NE SE sec. 19-25-5w. Cg. 4,467 ft.

Greer County

J. I. Medlin et al No. 1 Broudle, NW cor. sec. 5-6n-20w. S.S.O. 4,550-53 ft.; drlg. 4,588 ft.

Hughes County

Kenneth Ellison et al No. 1 Metropolitan, C NE NE sec. 14-7-9. Spd.
Phillips Pet. Co. No. 1 Becker, NE NW SW sec. 8-5-10. Cromwell 4,398 ft.; second Cromwell 4,533 ft.; deepening to Wilcox sd.
Pure Oil Co. No. 1 Rogers, SE SE NE sec. 18-8-12. Drlg. 4,895 ft.

Kay County

F. S. Freeland et al No. 1-A Watson, NE NW NW sec. 28-28-1w. Rig on ground.
E. W. Jones et al No. 1 Dorse, SE SW NW sec. 25-26-1w. Drlg. Oswego 3,543 ft.
E. J. Shaffer et al No. 1 McKee, NE NW sec. 20-28-1w. Drlg. 2,486 ft.

Kiowa County

Hughes & Reese No. 1 Fultz, SE cor. sec. 10-6-18w. Drlg. 1,111 ft.

Lincoln County

C. L. Carlock No. 1 Young, C N half NW NW sec. 23-15-5. Second Wilcox 4,509-12 ft.; S.W.; to P.B.

Logan County

Texas Co. No. 1 Roper, C W½ SW SE sec. 22-15-1e. T.D. 5,458 ft.; 3,000 ft. W.I.H.; to drill to second Wilcox.

Okmulgee County

Phillips Pet. Co. No. 1 Wood, NW SW SW sec. 31-11-13. T.D. 1,415 ft.; rng. 12½-in.

Payne County

Mid-Continent Pet. Corp. No. 1 Ramsey, SW SW NW sec. 18-18-2e. Spd.
Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Bennett, NE SW NE sec. 31-19-4. Drlg. 3,580 ft.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Wilcox 6,010 ft.; drlg. 6,025 ft.
Phillips Pet. Co. No. 1 Gilcrease, NW NW SE sec. 16-7-12. Drlg. 5,745 ft.

Pontotoc County

H. W. Lee No. 1 Weatherly, NW SE NW sec. 24-1n-7. Rig.
Jack Lynch et al No. 1-A Parker, SW SW SE sec. 17-4-8. Spd.
H. Riddle et al No. 1 fee, NW SW SE sec. 11-3n-5e. Set 10¾-in. 40 ft.
Union Dev. Co. No. 1 Abbott, SW NW NE sec. 34-3-6. T.D. 3,320 ft.; drill pipe stuck; S.D.

Seminole County

W. C. McBride, Inc., No. 1 Jackson, NE SW sec. 16-6-7. Cg. 1,790 ft.
W. B. Osborn et al No. 1 Harris, NW cor. sec. 11-6-5. T.D. 3,001 ft.; P.B. 2,968 ft.; to shoot.
H. V. Woodson and Marydun Oil Co. No. 1 Gilliland, SE SW sec. 24-11-7. Drlg. 2,215 ft.

Texas County

Hagey et al No. 1 Becker, C NE sec. 4-1n-13ecm. Spray S.W. 2,910 ft.; T.D. 3,010 ft.; to P.B.
Hagey et al No. 1 Peck, C NE sec. 6-1n-13ecm. Set 7-in. 2,766 ft.; W.O.C.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW sec. 2-4s-10e. Drlg. 1,789 ft.

Bryan County

Southern Oil Co. No. 1 Henry, NW NW NE sec. 10-8s-7. Drk.

Carter County

Lloyd Noble No. 1 Revelle, SW SE sec. 31-3s-2w. Drlg. sh. 3,793 ft.

Choctaw County

V. K. Chapman and T. N. Low No. 1 Hallum, NE NW NW sec. 4-7s-20. T.D. 245 ft.; S.D.
J. A. True No. 1 Boby, C NW SW sec. 17-7s-19e. Spd.

Coal County

Carter Oil Co. No. 1 Claytor, C W½ NE SW sec. 27-2n-9e. Drlg. 6,585 ft.
Phillips Pet. Co. No. 1 Beck, SE SW SW sec. 6-1n-9e. Drlg. 5,583 ft.

Cotton County

Bowers & Wise No. 1 Pendergraft, NW SE SW sec. 4-4s-12w. Spd. 16 ft.; S.D.

Jefferson County

Massad & Swansberger No. 1 Barrett, NE SE SE sec. 14-6s-6w. T.D. 1,890 ft.; S.D.

Johnston County

Patton et al No. 1 McCrummins, C SW SW NE sec. 16-1s-6e. S.D. 1,380 ft.
W. T. Sheldon No. 1 Chapman, C NW NW sec. 26-4s-6e. T.D. 2,510 ft.; fsg.

Marshall County

Paul Robb et al No. 1 Vittitoe, C NE SE sec. 11-5s-4e. O.W.D.D.; C.O. to 720 ft.; S.D.

Murray County

Meyer & Greenup No. 1 Arbuckle, NW NW NE sec. 18-2s-3e. Spd. and S.D.
O. O. Owens No. 1 Fryer, NE SE NE sec. 34-1s-3e. Drlg. sd. 2,575 ft.
Sinclair Prairie Oil Co. No. 1 Lancaster Trust, C SW NE sec. 10-1-2e. T.D. 4,404 ft.; freeing stuck pipe.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. T.D. 6,010 ft.; S.D.O.

Stephens County

Coline Oil Co. No. 1 Johnson, C SW SE SE NE sec. 1-2n-8w. T.D. 10,000 ft.; P.B. 9,164 ft.; bailing at 5,500-ft. level.
Chas. Newsom No. 1 Pfile, SW cor. sec. 1-2s-7w. T.D. 3,551 ft.; S.D.O.
Ed Parsons and Olson Drlg. Co. No. 1 Blake, C SW NW sec. 22-2n-8w. T.D. 6,002 ft.; P.B. 5,020 ft.; est. 50- to 75-bbl. pmpr.

Tillman County

Cavens et al No. 1 Southerland, SW SW NW sec. 35-4s-16w. T.D. 44 ft.; S.D.
Tom Walker No. 1 Bowman, SW SW NW sec. 10-4s-17w. S.D. 200 ft.

ARKANSAS

Clark County

Coker Oil Corp. No. 1 Coke, NW sec. 14-10-20. Drlg. 2,440 ft.

Columbia County

Kerr-Lynn Oil Co. No. 1 Barnett, sec. 14-17-20. Drlg. 6,323 ft.
E. O. Olds No. 1 Dennis, NE SE SW sec. 4-17-21. S.D.; contr. depth 4,513 ft.; W.O.C.
Standard of La. No. 1 J. P. McKean, SW sec. 8-16-22w. Flwg. avg. 15 bbls. hrly.; T.D. 7,258 ft.; comp. 19 B.P.H., open 2½-in. tbg.; T.P. 100 lbs.; C.P. 250 lbs.; T.D. 7,258 ft.
Tide Water-Seaboard Oil Co. No. 1 Crumpler, SW NE SW sec. 24-17-19w. Fsg. D.S.; T.D. 7,563 ft.

Crittendon County

Manning & Martin No. 1 Cartwright, SW cor. sec. 16-7n-8e. R.U.

Dallas County

L. S. Gist No. 1 J. H. Goodgame, NW sec. 26-10-16. S.D. 1,720 ft.

Miller County—Rodessa

W. C. Feazel No. 1 Farmer, SE sec. 13-20-28. Drlg. 4,859 ft.
American Liberty Oil Co. No. 1 Treadway, NE sec. 10-20-28. Rng. 9⅝-in. csg. 2,030 ft.
Rodger Lacy No. 1 Sartor, SE W½ sec. 15-20-28. Drlg. 4,990 ft.
Rodger Lacy No. 2 Grogan, NE E½ W½ sec. 15-20-28. Drlg. 4,855 ft.
McClanahan et al No. 2-B Capps, SW sec. 11-20-28. Drlg. 4,410 ft.
McClanahan et al No. 1 Eason, S½ NW SW sec. 12-20-28. Rng. 7-in. csg. 6,104 ft.; T.D.
McClanahan et al No. 2 T. J. Hopkins, C sec. 11-20-28. Set 7-in. csg. 6,040 ft.; comp. 1,742 B.P.D., open tbg.; T.D. 6,100 ft.
McMurray No. 1-A Thomas, NW E½ W½ sec. 13-20-28. Perf. csg. 6,024-90 ft.; flwd. 40 B.P.D. and 3,000,000 ft. gas; T.D. 6,150 ft.
McMurray No. 2-B Thomas, SW SW SE sec. 12-20-28. Perf. 6,091-94 ft.; T.D. 6,141 ft.; swbg.
Nivla Oil Corp. No. 1 Cross, SE cor. SE NE sec. 11-20-28. T.D. 6,106 ft.; set 7-in. csg. 6,104 ft.; perf. 6,040-95 ft.; tstg.
J. R. Ostrom No. 1 J. O. Gerrald, NW E½ sec. 15-20-28. C.O.; T.D. 6,079 ft.; S.D.
Parks et al No. 1 Gerrald, sec. 11-20-28. Set 7-in. csg. 6,169 ft.; perf. 6,160-73 ft.; acd.; flwd. and went dead; tstg.; T.D. 6,189 ft.
Potter Drlg. Co. No. 2 Larney, sec. 11-20-28. T.D. 6,135 ft.; set 7-in. csg. 6,131 ft.
S. O. Thomason No. 1 Greer, SW SW NW sec. 11-20-28. O.T.D. 5,809 ft.; sdtrkd. 3,500 ft.; drlg. 4,150 ft.
Texas Canadian Oil Co. No. 1 Thomas, sec. 12-20-28. Comp. 509 B.P.D., 23/64-in. ck.; 7-in. csg. 6,142 ft.; T.D. 6,168 ft.; perf. 6,079-92 ft.

Nevada County

Benedum & Trees Oil Co. No. 2 Mary Jackson, NE cor. sec. 9-14s-20w. R.U.
Bruce E. Wallace No. 2 Haynie, SE cor. sec. 5-14-21. M.I. rig.
W. E. Lekey, Tr., No. 1 Purifey, NE sec. 17-11-20. T.D. 2,220 ft.; D.&A.
Union Products & Pet. Co. No. 4 Haynie, NW sec. 6-14-20. 6-in. csg. 1,192 ft.; sd.; S.O. 1,170-78 ft.; W.O. perf.

Ouachita County

O. F. Whittacker No. 2 Guttry, NW sec. 21-15-19w. Cg. 2,108 ft.

Pulaski County

A. L. Kitselman, No. 2 A. L. Kitselman, Jr., SE SE SW sec. 2-1s-13e. Drlg. 1,682 ft.

Union County—Schuler

E. M. Jones No. 2 Marine Oil Co., SW NW SE sec. 17-18-17. Drlg. 7,943 ft.
E. M. Jones No. 3 Marine Oil Co., NE NW SE sec. 17-18-17. Drk.
E. M. Jones No. 4 Marine Oil Co., SE SW SE sec. 17-18-17. T.D. 7,029 ft.; P.B. whipstock 6,845 ft.; drlg. sdtrk. hole 6,870 ft.
Lion Oil Ref. Co. No. 1-A M. D. Justiss; NE NW NE sec. 19-18-17. Drlg. 6,775 ft.
Lion Oil Ref. Co. No. 1 Marine Oil Co., NE SE SW sec. 17-18-17. Drlg. 7,195 ft.
Lion Oil Ref. Co. No. 3-B Edna Morgan, NE NW SE sec. 18-18-17. Drlg. 6,445 ft.
Lion Oil Ref. Co. No. 4-B Edna Morgan, NW SW SE sec. 18-18-17. Drlg. 4,400 ft.
Lion Oil Ref. Co. No. 1-C D. and J. C. Morgan, NE SE SE sec. 18-18-17. Drlg. 5,508 ft.
Marine Oil Co. No. 3 fee, SW sec. 17-18-17. Set 10¾-in. csg. 1,750 ft.; W.O.C.
Marine Oil Co. No. 2 M. D. Justiss, sec. 18-18-17. Drlg. 6,843 ft.
Phillips Pet. Co. No. 1 E. Gan, SW SE NE sec. 18-18-17. Run 7-in. csg.; W.O.C.; T.D. 7,700 ft.
Phillips Pet. Co. No. 1 Jennings, NW SW NE sec. 18-18-17. Drlg. 5,758 ft.
Phillips Pet. Co. No. 2 Justiss, NW sec. 18-18-17. Drlg. 2,445 ft.
Phillips Pet. Co. No. 2 Marks, SW sec. 18-18-17. Drlg. 2,240 ft.
Alice Sidney Oil Co. No. 2 Morgan, SE T.D. 7,700 ft.; perf. 7,552-68½ ft.; flwd. 92 B.P.H., 1-in. ck.
Alice Sydney Oil Co. No. 3 Morgan, NW NE SE sec. 18-18-17. Drlg. 3,340 ft.

Union County—Other

Ark. So. Oil Co. No. 1 Simmons, SE NW sec. 15-18-18. Swbg. to tst. 2,283 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

Blackwell O. & G. Co. No. 3 Neugent, sec. 8-23-16. O.W.D.D.; T.D. 6,750 ft.; rng. to P.B.
F. W. Burford No. 1 Cleveland, NW S¼ sec. 2-23-16. R.U.
F. W. Burford No. 2 Cleveland, C sec. 2-23-16. 9⅝-in. csg. parted; T.D. 5,740 ft.
F. W. Burford No. 2 Terry, NE sec. 2-23-16. Drlg. 4,852 ft.
F. W. Burford No. 4 Terry, SE NE sec. 2-23-16. Set 7-in. at 6,005 ft.; perf. 6,005-20 ft.; tstg. 6,040 ft.
F. W. Burford No. 1 U. S. Govt., NE SE SW sec. 6-23-16. T.D. 6,115 ft.; acd. and tstd. dry; P.B. 6,063 ft. to perf.
Driscoll Jt. No. 1 Muslow, SE NW NE sec. 4-20-15. Cg. 2,170 ft.
Gulf Ref. Co. No. 1 Allison, NW sec. 3-23-16. Drlg. 5,232 ft.
Gulf Ref. Co. No. 6 Curtis, SE sec. 19-20-15. Drlg. 1,245 ft.
Magnolia Pet. Co. No. 2 G. W. Hardy, NW SW sec. 1-23-16. O.T.D. 6,068 ft.; P.B. 6,010 ft.; 7-in. csg. 5,990 ft.; tstd. est. 5,000,000 ft. gas; T.D. 6,012 ft.
Shell Pet. Corp. No. 1-A Govt., NE SW SE sec. 9-23-16. Drlg. 5,554 ft.
Standard Oil of La. No. 4 McCoy, NE SE NW sec. 10-23-16. Drlg. 5,608 ft.
Alice Sydney Oil Co. No. 1 Alexander, NW cor. sec. 3-23-16. R.U.
R. G. Trippett No. 1 Parker, NE cor. SE sec. 2-23-16. R.U.
R. G. Trippett No. 1 Sharpe, NE cor. sec. 4-23-16. Cg. 5,946 ft.
Union Prod. Co. No. 6 Starke, SW cor. sec. 8-23-16. T.D. 5,980 ft.; set 7-in. csg. 5,946 ft.; sat. sd. 5,980-91 ft.; tstg.; T.D. 6,020 ft.
G. H. Vaughn No. 1 Sartor, NE sec. 3-23-16. Set 9⅝-in. csg. 2,079 ft.; W.O.C.
Union Prod. Co. No. 7 Starke, SW sec. 8-23-16. Drlg. 330 ft.
G. H. Vaughn No. 2 Yates, NW cor. sec. 2-23-16. Comp. 65 B.P.H. on 1-in. ck.; 7-in. csg. 5,966 ft.; T.D. 6,020 ft.

N. LOUISIANA WILDCATS

Bienville Parish

Gulf Ref. Co. No. 1 Goodpine, sec. 25-14-8. D.S.T. 5,663-91 ft.; rec. S.W.; cg. ahead 5,849 ft.
H. L. Hunt and Seaboard No. 1 Federal Ld. Bk., SW sec. 10-16-16. Drlg. 7,401 ft.

Bossier Parish

Premier Inv. Co. No. 1 McDade, SE SW NE sec. 28-19-11. S.D. 810 ft.
Producers O. & G. Co. No. 1 Hill Est., E½ NE¼ sec. 8-17-11. T.D. 1,090 ft.; abd.
Union Prod. Co. No. 1-B Kerr Unit, SE sec. 24-17-12. Drlg. 1,297 ft.
Triangle Drlg. Co. No. 1-A Herold, NE NW sec. 13-17-12. R.U.

Caddo Parish

W. D. Chew No. 3 Spell, NE SW SE sec. 29-21-15. W.O.S.R. 1,575 ft.
W. D. Chew No. 4 Spell, SE sec. 29-21-15. R.U.
W. P. Clark No. 1 Dyer, C sec. 10-20-16. Tstd. dry; W.O.; T.D. 2,279 ft.
Mrs. O. P. Clement No. 1-B Caddo Lvy. Bd., NE sec. 5-20-16. 6-in. at 2,180 ft.; T.D. 2,185 ft.

D. C. R. Oil Co. No. 2 Sibley, SE cor. SE NW sec. 15-19-14. Set 10-in. csg. 122 ft.; W.O.C.
L. I. Davis No. 2 Stiles, SE sec. 17-21-16. T.D. 1,023 ft.; comp. 50 B.P.D. pump.
W. Dromgoole No. 1 School Bd., SE NW sec. 16-19-14. 7-in. 2,425 ft.; W.O.S.R. 2,460 ft.
A. R. Hancock No. 2 Helpman, sec. 16-21-16. Drk.
W. H. Harrison No. 2 Shoreline Crystal, SE NW NE sec. 23-21-16. 4½-in. 1,034 ft.; tstd. S.O. 1,041 ft.
La. Oil Prod. Co. No. 3-C Muslow, sec. 9-20-15. Set 7-in. csg. 2,136 ft.; T.D. 2,172 ft.
Magnolia Pet. Co. No. 28 Robertshaw, SW NE sec. 23-21-15. 7-in. csg. 1,464 ft.; comp. 118 B.P.D. pump; T.D. 1,650 ft.
O. O. Olsen No. 1 R. T. Sharp, W½ NW sec. 15-18-16. Tstd. dry 5,586-5,609 ft.; 7-in. 5,591 ft.; T.D. 5,624 ft.
Orr et al No. 1 Acme fee, NW cor. sec. 15-21-16. D.&A.; T.D. 1,902 ft.
Prairie River Synd. No. 1 Hutchinson, SW NW sec. 15-15-12. S.D. 9,141 ft.
A. D. Robinson No. 1 Wilkinson, sec. 22-20-14. Cg. 950 ft.
J. E. Sedberry No. 1 Dickinson, NW sec. 15-19-14. Set 10-in. csg. 110 ft.
J. J. Shulman No. 1 Hobbs, NW sec. 28-21-15. Drlg. 1,510 ft.
Stewart Williams No. 2 Connell, SW NE sec. 10-20-15. Abd. 80 ft.; will not drl.
Texas Co. No. 1-A Caddo Lev. Bd., SE NE sec. 33-21-16. Abd.; T.D. 2,239 ft.; S.W.
R. G. Trippett and D. C. R. O. Co. No. 5 School Bd., sec. 16-19-14. Set 7-in. csg. 2,432 ft.; T.D. 2,460 ft.

Claiborne Parish

Atlantic Ref. Co. No. 1-B Bean, N½ NW NE sec. 32-21-4. Set 10¾-in. csg. 885 ft.; T.D. 912 ft.
Atlantic Refg. Co. No. 2-B Tatum, E½ NW SW sec. 32-21-4. Loc.
Crescent Drlg. Co. No. 1 Fowler, E½ SW flwd. 50 bbls. 1st hr., 27 bbls. 2nd hr., 900 bbls. in one week and went dead; W.O.S.R.; T.D. 5,285 ft.
Harry Hanbury No. 1-E R. Vaughn, S½ NE SE sec. 25-21-5. Comp. 462 B.P.D. on 27/64-in. ck.; 5½-in. csg. 5,206 ft.; T.D. 5,221 ft.
T. L. James & Co. No. 2 Tarver, C E½ NE NE sec. 32-21-4. R.U.
Lisbon Oil Co. No. 1 Burgess, sec. 3-20-5w. Comp. 70 B.P.D. on pump; T.D. 5,325 ft.
W. L. McClanahan No. 1 J. T. Lewis, W½ SW SE sec. 25-20-7. Drlg. 4,786 ft.
A. O. Olsen No. 1 English, E½ SE SE sec. 29-21-4. Set 7-in. 5,183 ft.; T.D. 5,204 ft.; flwd. 65 B.P.H. for 4 hrs. after acidizing.
A. O. Olsen No. 5-A Patton, NE SW sec. 30-21-4. Set 7-in. csg. 5,190 ft.; comp. 1,440 B.P.D. on 30/64-in. ck.; T.D. 5,206 ft.
A. O. Olson No. 6-A Patton Est., sec. 3-21-4. Set 10¾-in. csg. 805 ft.
C. R. Schuster No. 1 S. Lloyd, SW SW sec. 2-20-5. S.D. for fuel 4,047 ft.
Scouts Oil Corp. No. 2 English, sec. 30-21-4. Drlg. 5,144 ft.
Sloan & Zook No. 1 M. S. Patton, sec. 1-20-5. Perf. 5,347-66 ft.; tstg.; T.D. 5,404 ft.
Trippett et al No. 1-B Aycock, C N½ SE SE sec. 1-20-5. Drlg. 1,620 ft.
Union Prod. Co. No. 2 Brownfield, sec. 5-19-5. O.W.D.D.; drlg. sd. 7,702 ft.
Union Prod. Co. No. 1 Stevenson Kilpatrick, O.W.D.D.; drlg. 5,317 ft.
G. H. Vaughn No. 2 Epolnger, N½ SW SW sec. 29-21-4. T.D. 5,134 ft.; sat. L. 5,104-22 ft.; set 5½-in. csg. 5,104 ft.
Vaughn No. 2 King, N½ SE SE sec. 30-21-4. R.U.

Concordia Parish

Coastal Mineral & Dev. Co. No. 1 Winsten, NW cor. sec. 23-7-9e. Tstd. S.W. 2,090 ft.; P.B. 2,027 ft.; tstd. dry; W.O.

De Soto Parish

Clear Lake Oil Co. No. 1 J. A. Woolums, NW sec. 29-12-12. Wtg. on csg.; T.D. 2,690 ft.
Jal Drlg. Co. No. 9-A Scales, sec. 36-13-12. R.U.
Kingston Oil Co. No. 1 Scott, SE NE sec. 32-14-13. S.D. 2,777 ft.
Petroleum Heat & Power Co. No. 1 Kavanaugh, NW SW sec. 7-11-11. Drlg. 2,316 ft.
T. & J. Inc. No. 2 Tullos, SE NE sec. 26-10-1e. Set 6-in. csg. 1,514 ft.; T.D. 1,523 ft.; tstg.

Franklin Parish

Jenson & Bailey No. 1 Grayson, C NE sec. 36-12-6e. O.T.D. 2,516 ft.; tstd. S.W. 1,703 ft.

Jackson Parish

G. W. Ziegen No. 5 La. Cen. Lbr. Co., sec. 13-14-2w. T.D. 2,812 ft.; abd.

La Salle Parish

T. & J., Inc. No. 2 Tullos, SE NE sec. 26-10-1e. Tstg. 1,523 ft.
T. & J., Inc. No. 4 Tullos, SE cor. SE sec. 26-10-1e. R.U.

Lincoln Parish

Gulf Ref. Co. No. 1 M. Patton, C sec. 6-20-4. 7-in. csg. 5,245 ft.; comp. 20 B.P.H., 24/64-in. ck.; T.D. 5,288 ft.
Gulf Oil Corp. No. 2 Patton, SW cor. NW SE sec. 6-20-4. R.U.
Magnolia Pet. Co. No. 1-B F. Corbin, N¼ NW NW sec. 5-20-4. 7-in. 5,241 ft.; T.D. 5,257 ft.; comp. 52 B.P.H., ½-in. ck.
E. T. Oakes No. 1 Griggs, sec. 36-18-1w. Cg. 4,922 ft.
Red Iron Drlg. Co. No. 2 T. F. Patton, NW SW NE sec. 6-20-4. 5½-in. csg. 5,228 ft.; comp. 381 B.P.D., 1-in. ck.; T.D. 5,256 ft.

Red River Parish

Arkansas Fuel Co. No. 1 Frankland Realty Co., NW sec. 20-11-9. Drlg. 3,515 ft.
Glassell & Whitehurst No. 1 LeLong, NE NW NE sec. 25-12-11. Set 13⅝-in. csg. 250 ft.
W. K. Williams No. 1 Padock, SE SW NW sec. 33-13-11. Comp. 10 B.P.D. pump; T.D. 2,500 ft.

Sabine Parish

Fox & Phillips No. 1 Cook Ld. Co., SW SE NW sec. 1-9n-12w. Tstd. dry 3,276-3,310 ft.; drlg. ahead 3,438 ft.
Gold Oil Co. No. 1 Darby, N½ SE sec. 21-7-11. D.&A. 2,586 ft.
Hunter Co. No. 1 Long Bell Lbr. Co., sec. 23-7-13. Dry 2,651 ft.; drlg. below chalk 3,000 ft.
W. L. Posey No. 1 Burkett, sec. 10-9-13. Arranging to deepen 2,021 ft.
Remine et al No. 1 4-L Co., SW SW sec 7-5-12. F'sg. 5,218 ft.
Sutton Oil Co. No. 1 Sabine Lbr. Co., SE cor. NW NE sec. 23-7n-14w. R.U.

Tensas Parish

H. M. Jones No. 2 Chicago Mill & Ld. Co., NE SW sec. 31-12-10e. R.U.

Union Parish

Joe Modisett No. 1 Frost Lbr., sec. 14-21-1e. Drlg. 6,115 ft.

Webster Parish

V. L. Foster No. 2 J. M. Mixon, SE sec. 21-21-10. Drlg. 7,733 ft.
Magnolia Pet. Co. No. 1 Crichton Hrs., NE NW sec. 33-21-10. Drlg. 6,965 ft.
Magnolia Pet. Co. No. 7 Marshall, SW SE sec. 21-21-10. T.D. 5,890 ft.; 9⅝-in. csg. 5,771 ft.
Magnolia Pet. Co. No. 2 Mixon, sec. 22-21-10. Drlg. 665 ft.
North American Oil Co. No. 1 Coyle, NE SW sec. 28-21-10. Drlg. 4,546 ft.
Ohio Oil Co. No. 2 Bodcaw Acct. 4, SW SE NW sec. 24-21-10. T.D. 5,630 ft.; set 9⅝-in. 5,619 ft.
Ohio Oil Co. No. 48 Bodcaw Acct. 2, SE sec. 15-21-10. T.D. 5,604 ft.; set 9⅝-in. csg. 5,600 ft.
Ohio Oil Co. No. 23 Gray Acct. No. 1, SE sec. 27-21-10. Drlg. 4,060 ft.
Ohio Oil Co. No. 2 Warren Cox, SE sec. 23-21-10. Drlg. 6,172 ft.
W. G. Ray No. 1 Stewart, NE cor. sec. 33-21-10. Set 13⅜-in. csg. 753 ft.; W.O.C.
Standard Oil Co. of La. No. 7 Mrs. M. F. Davis, NE NE NW sec. 23-21-10. 7-in. csg. 8,207 ft.; comp. 194 B.P.D.; T.D. 8,258 ft.
Standard Oil Co. of La. No. 2-B Mrs. M. E. Gray, NE NE NW sec. 26-21-10. 7-in. csg. 8,056 ft.; comp. 224 B.P.D.; T.D. 8,117 ft.
Stanolind O. & G. Co. No. 1 Pardee Co., SW NE sec. 36-21-10. R.U.
United Gas No. 6 Tillman, NE sec. 28-21-10. Drlg. 7,661 ft.
Woodley Pet. Co. No. 5-B M. E. Gray, sec. 27-21-10. Drlg. 6,726 ft.

SOUTH LOUISIANA FIELDS

Anse La Butte—St. Martin Parish

Anse La Butte Oil Corp. No. 1 Billeand, sec. 117-9s-5e. T.D. 832 ft.; 7-in. csg. 790 ft.; swb. S.W.; cmt. off bttm.; W.O.S.R.; I.P. 60 bbls. of fluid per day, 15 per cent S.W.
Crusader Pet., Inc., No. 1 Central Oil Co., sec. 86-9s-5e. 10¾-in. csg. 465 ft.; T.D. 2,497 ft.; perf. csg. 1,606-10 ft.; I.P. 26 B.P.D., ¼-in. ck.

Bay St. Elaine—Terrebonne Parish

F. J. LeBlanc No. 2 Wurzlow, sec. 17-22s-18e. S.D. 910 ft.
Texas Co. No. 15 State, sec. 20-22s-18e. Drlg. sdy. sh. 4,642 ft.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 1 Schwing, sec. 67-9s-11e. M.I.M.

Bayou Cocotriz—Terrebonne Parish

Shell Pet. Corp. No. 4 Pelican, sec. 19-17s-15e. Driving pilling.

Bayou De Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 St. Charles Ld. Co., sec. 38-15s-20e. 10¾-in. csg. 2,698 ft.; drlg. sh. 8,406 ft.

Big Lake—Cameron Parish

Union Sulphur Co. No. 1 P. J. Hebert, sec. 18-12s-8w. 6⅝-in. csg. 8,441 ft.; T.D. 9,289 ft.; D.S. stuck; P.B.; S.D.; W.O.O.
Union Sulphur Co. No. 2 J. O. Hebert, sec. 18-12s-8w. Core sd. show oil 8,442-• 63 ft.; drlg. sdy. sh. 9,148 ft.

Black Bayou—Calcasieu Parish

Shell Pet. Corp. No. 39 Watkins. Drlg. sh. and L. 3,981 ft.

Bosco—Acadia Parish

Superior Oil Co.-Pure Oil Co. No. 5 Larcade, sec. 35-8s-3e. T.D. 10,216 ft.; P.B.; sdtrkd.; drlg. sh. 8,869 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 20 School Ld., sec. 16-14s-13w. R.U.
Magnolia Pet. Co. No. 21 Cameron Meadows, sec. 21-14s-13w. 13⅜-in. csg. 1,173 ft.; drlg. sd. and sh. 3,927 ft.

Choneyville—Rapides Parish

Amerada Pet. Corp. No. 4 Weil, sec. 53-1s-2e. R.U.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 1 Dolph, sec. 36-13s-9e. T.D. 7,185 ft.; 7-in. csg. 6,904 ft.; drlg. sdy. sh. 7,746 ft.
Pan American Prod. Co. No. 1 Eucer, sec. 11-13s-9e. Drlg. sd. 7,468 ft.; no report.

Choctaw—Iberville Parish

Louisiana Crusader Oil Co. No. 1 E. B. Schwing, sec. 29-8s-11e. Drlg. sh. and L. 6,389 ft.
Standard Oil Co. No. 8 Gay, sec. 52-9s-11e. Drlg. sd. and bldrs. 2,842 ft.

Darrow—Ascension Parish

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. R.U.
Humble No. 12 Gumbel, sec. 33-10s-2e. 16-in. csg. 225 ft.; drlg. sdy. sh. 6,884 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 18 State, sec. 5-22s-16e. T.D. 7,606 ft.; P.B. 6,113 ft. to sdtrk.; drlg. sh. 6,641 ft.
Texas Co. No. 21 State, sec. 5-22s-16e. Drk.

Four Isle—Terrebonne Parish

Texas Co. No. 9 L.L.&E., sec. 24-21s-16e. T.D. 8,553 ft.; P.B. 3,881 ft.; sdtrk.; drlg. sh. and L. 6,917 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 25 State, sec. 37-23s-33e. Drlg. sh. 523 ft.

Gillis—Calcasieu Parish

Union Sulphur Co. No. 7 Kaufman, sec. 13-9s-8w. T.D. 7,079 ft.; 5-in. csg. 7,052 ft.; swbd. S.W.; P.B. to 6,898 ft.; swbd. S.W.; fsg. for screen; P.B. 7,057 ft.; sdtrkd.; T.D. 7,057 ft.; tstd.; gas; shut in; W.O.
Union Sulphur Co. No. 2 Mary McIvor, sec. 14-9s-8w. T.D. 7,165 ft.; 5-in. csg. 7,165 ft.; flwd. S.W.; make squeeze job; W.O.C.
Union Sulphur Co. No. 6 Kaufman, sec. 13-9s-8w. Drlg. 50 ft.

Hackberry—Cameron Parish

W. T. Burton No. 3 Lewis, sec. 22-12s-10w. R.U.
W. T. Burton No. 2 Porter Ellender, sec. 27-12s-10w. Drlg. sh. 3,570 ft.
F. J. LeBlanc No. 1 Doiron, sec. 36-12s-10w. R.U.R.
M. P. O'Meara No. 1 Rigmaden heirs, sec. 22-12s-10w. Drk.
Stanolind O. & G. Co. No. 6 Duhon, sec. 22-12s-10. T.D. 4,756 ft.; 7-in. csg. 4,684 ft.; perf. csg. 3,160-63 ft.; set retainer; squeezed.
Stanolind O. & G. Co. No. 8 Carter & Sweeney, sec. 22-12s-10w. R.U.
Stanolind O. & G. Co. No. 10 Carter & Sweeney, sec. 22-12s-10w. Drk.
Stanolind O. & G. Co. No. 26 Gulf Ld., sec. 22-12s-10w. 10¾-in. csg. 1,644 ft.; T.D. 4,513 ft.; P.B. 3,175 ft.; sdtrkd.; T.D. 3,615 ft.; P.B. 1,800 ft.; drlg. sdy. L. 2,775 ft.
Stanolind O. & G. Co. No. 27 Gulf Ld., sec. 22-12s-10w. Drlg. sh. 3,609 ft.
Texas Co. No. 3-B State, sec. 12-12s-9w. T.D. 7,695 ft.; P.B.; sdtrkd.; dry; sh. 6,641 ft.
Union Sulphur Co. No. 1 Doiron, sec. 37-12s-10w. Drlg. sh. and L. 4,001 ft.

Iowa—Jeff Davis Parish

Magnolia No. 13 Wait, sec. 12-9s-7w. Drlg. sdy. sh. 2,876 ft.

Lockport-Cameron Parish

Magnolia Pet. Co. No. 35 Miller, sec. 9-10s-9w. Drlg. sdy. sh. 7,237 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Teche Sugar Co., sec. 58-13s-8e. Drlg. sh. and L. 6,287 ft.

Jennings—Acadia Parish

Frank W. Bennett et al No. 1 Brethern and Christ Church, sec. 41-7s-2w. T.D. 7,070 ft.; 6⅝-in. csg. 6,990 ft.; I.P. 440 B.P.D., ¼-in. ck.
W. T. Burton No. 4 Roboria, sec. 41-9s-3w. T.D. 7,023 ft.; 7-in. csg. 7,023 ft.; failed to flow; P.B. 6,523 ft.; perf. csg. 6,442-6,502 ft.; I.P. 480 B.P.D., ¼-in. ck.
W. T. Burton No. 5 Roboria, sec. 42-9s-2w. Drlg. 1,057 ft.
Crusader Pet., Inc., No. 1 E. H. Grace, sec. 45-9s-2w. 7-in. csg. 3,602 ft.; T.D. 3,811 ft.; caprock; set 301 ft. liner on bttm.; perf. 3,702-15 ft.; I.P. 100 bbls. in 13 hrs., ¼-in. ck.
H. Fostiades et al No. 1 Washington-Opelousas, sec. 41-9s-2w. Drlg. sh. 2,629 ft.
Glassell & Glassell No. 4 Trushell, sec. 42-9s-3w. Broken sh. 6,641 ft.
Gulf Ref. Co. No. 39 Arnaudit, sec. 47-9s-2w. Drlg. rock 4,657 ft.
Jolly Pet. Co. No. 2 McFarlain, sec. 41-9s-2w. Drk.
Ladak Oil Co. No. 3 Clement, sec. 46-9s-2w. T.D. 1,997 ft.; 6⅝-in. csg. 1,790 ft.
M. P. O'Meara No. 1 Moresi, sec. 41-9s-2w. Drlg. shy. sh. 5,450 ft.
Jolly Pet. Co. No. 5 Jennings-Haywood, sec. 46-9s-2w. R.U.R.
Reiter Foster Oil Co. No. 2 Crusel, sec. 42-9s-2w. T.D. 3,908 ft.; P.B. 3,746 ft.; failed to flow; pull screen.
Shell Pet. Corp. No. 3 Community, sec. 40-9s-2w. Cg. sh. 6,893 ft.
Stanolind O. & G. Co. No. 19 Houssiere-Latrelle, sec. 47-9s-2w. Drlg. sd. and sh. 5,109 ft.
Superior Oil Co. No. 1 Julis Clement, sec. 46-9s-2w. Drlg. sh. 5,369 ft.
Superior Oil Co. No. 5 Jennings-Heywood, sec. 41-9s-2w. Drlg. sh. 1,408 ft.
Superior Oil Co. No. 7 Leckelt, sec. 42-9s-2w. Drlg. sh. 6,631 ft.
Superior Oil Co. No. 9 Leckelt, sec. 42-9s-2w. Drlg. sh. 1,265 ft.
Superior Oil Co. No. 3 Moresi, sec. 41-9s-2w. T. D. 6,748 ft.; stuck D.S.; sdtrkg. 5,038 ft.; T.D. 7,684 ft.; 7-in. csg. 6,744 ft.; I.P. 535 B.P.D., ¼-in. ck.
Victor Weisse No. 1 Clement, sec. 46-9s-2w. Drlg. sh. 2,347 ft.

Lafitte—Jefferson Parish

Texas Co. No. 7 L.L.E., sec. 20-17s-24w. T.D. 10,275 ft.; 9⅝-in. csg. 10,275 ft.; perf. 10,065-92 ft.; tstg.
Texas Co. No. 8 Rigolet, sec. 29-17s-24e. 13⅜-in. csg. 1,923 ft.; drlg. sh. and L. 9,082 ft.
Texas Co. No. 8 Lafitte, sec. 20-17s-24e. Drk.
Texas Co. No. 1 Marrero Land & Investment Co., sec. 20-17s-24e. Bldg. drk.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 7 Lafourche, sec. 12-18s-25e. 7-in. csg. 8,074 ft.; cg. 9,069 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 13 State, sec. 8-23s-18e. T.D. 6,605 ft.; D.S. stuck; fsg.

Lockport—Calcasieu Parish

Magnolia Pet. Co. No. 35 Miller, sec. 9-10s-9w. Drlg. sdy. sh. 7,237 ft.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 2 State, sec. 65-17s-19e. R.U.
Fohs Oil Co. No. 3 State, sec. 65-17s-19e. 10¾-in. csg. 2,743 ft.; T.D. 9,539 ft.; sd. 9,517-33 ft.; P.B. 9,464 ft.; perf. csg. 9,482-96 ft.; tstd. S.W.; prep. to sdtrk.

Leesville—Plaquemines Parish

Texas Co. No. 63 Leesville, sec. 27-12s-22e. Drk.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Frank Wurzlow, sec. 6-19s-19e. 13⅜-in. csg. 2,796 ft.; drlg. sh. 8,134 ft.

New Iberia—Iberia Parish

Wm. Hellis No. 4 Gulf Land, sec. 52-12s-7e. Drlg. sh. 88 ft.
Wm. Hellis No. 9 Bernard, sec. 54-12s-7e. T.D. salt 5,171 ft.; P.B. and sdtrkd., sd.&sh. 4,538 ft.; T.D. 4,661 ft.; salt; P.B.; sdtrk.; drlg. S.W. sd. 5,149 ft.
Wm. Hellis No. 10 Bernard, sec. 54-12s-7e. R.U.
Texas Co. No. 3 Bryant, sec. 25-12s-7e. Drlg. sh. 3,628 ft.
Texas Co. No. 1 Burke, sec. 56-12s-8e. Drlg. sh. 6,284 ft.
Texas Co. No. 2-B Hanzen, sec. 54-12s-7e Drlg. sh. 746 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 1 H. J. Habetz, sec. 45-8s-1e. Dig. pits.
Humble O. & R. Co. No. 1 Habetz, sec. 3-9s-1e. Drlg. sh. 8,824 ft.
Humble O. & R. Co. No. 1 L. Laumbrecht, sec. 4-9s-1e. Drlg. sh. 9,153 ft.

Roanoke—Jeff Davis Parish

Superior Oil Co. No. 1 Ferguson, sec. 13-9s-4w. Drlg. sh. 7,500 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 L. L. Barnard et al, sec. 16-10s-4e. R.U.

South Elton—Jeff Davis Parish

Stanolind O. & G. Co.-Amerada Pet. Corp. No. 3-B Calcasieu Natl. Bank, sec. 27-7s-3w. Drlg. sh. 2,001 ft.

South Jennings—Jeff Davis Parish

Loffland Bros. No. 1 Fontenot, sec. 16-10s-3w. T.D. 9,003 ft.; 7-in. csg. 8,943 ft.; P.B. 8,904 ft.; perf. csg. 8,870-75 ft.; swbd. S.W.; show of oil.

Starks—Calcasieu Parish

Capital Oil Co. No. 1 Lutcher-Moore, sec. 24-9s-13w. R.U.
Lutcher Moore No. 3 fee, sec. 19-8s-12w. T.D. 4,361 ft.; 6⅝-in. csg. 4,351 ft.; flwd. P.L.O.; started making gas; pull screen to deepen.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 853 fee, sec. 20-9s-10. T.D. 1,039 ft.; run 10¾-in. csg.; drlg. sh. 4,368 ft.
Union Sulphur Co. No. 852 fee, sec. 29-9s-10w. Drlg. sd. 3,689 ft.; T.D. 4,262 ft.; P.B. 3,750 ft.; sdtrkd.; drlg. sd. 4,434 ft.
Union Sulphur Co. No. 851 fee, sec. 29-9s-10w. Drlg. rock 5,119 ft.

Tepetate-Acadia Parish

Continental Oil Co. No. 4-D Homeseekers Dev. Co., sec. 34. R.U.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 13 Harang, sec. 8-17s-20e. 16-in. 210 ft.; drlg. sdy. sh. 6,709 ft.
Pan American Prod. Co. No. 14 Harang, sec. 9-17s-20e. 10¾-in. csg. 1,838 ft.; drlg. sh. 4,808 ft.

Venice—Plaquemines Parish

Tide Water Oil Co. No. 4 Manhattan Fruit Co., sec. 26-21s-30e. Cored oil sd. 7,632 ft.; 7-in. csg. 7,733 ft.; T.D. 7,733 ft.; perf. csg.; comp.; no gauge.
Tide Water Oil Co. No. 5 Manhattan Fruit Co., sec. 26-26s-30e. R.U.

Vinton—Calcasieu Parish

Katina Oil Co. No. 2 Vincent, sec. 34-10s-12w. T.D. 4,303 ft.; P.B. 3,227 ft.; swbd. oil and S.W.
Superior Oil Co. No. 2 Levy, sec. 4-11s-12w. Drlg. sd. and gravel 1,350 ft.
Sutton-Burton No. 1 Calcasieu Natl. Bk., sec. 3-11s-12w. R.U.R.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 La. Ld. Improvement Co., sec. 46-3s-2e. Bldg. drk.

White Castle—Iberville Parish

T. D. Humphray No. 1 E. B. Adams, sec. 1-11s-12e. S.D. 6,067 ft.; P.B. and sdrkd.; drlg. sh. 8,545 ft.
Shell Pet. Corp. No. 11 Wilbert. Drlg sh. and L. 3,981 ft.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. T.D. 5,106 ft.; P.B. to approx. 500 ft.; drlg. sh. 3,685 ft.
Gulf Oil Corp. No. 1 Euclia Broussard,

sec. 49-10s-2w. Drlg. sdy. sh. 8,797 ft.
Humble O. & R. Co. No. 1 R. A. Sarver, sec. 35-10s-1e. T.D. 9,526 ft.; rmg 9⅝-in. csg. 7,550 ft.; drlg. sdy. sh. 10,201 ft.
Magnolia Pet. Co. No. 1 Duson, sec. 14-8s-2w. T.D. 8,753 ft.; abd.

Calcasieu Parish

D. & D. Oil Co. No. 2 Lutcher-Moore, sec. 1-8s-13w, T.D. 8,340 ft.; run 9⅝-in. csg.; drlg. plug; csg collpsd; T.D. 8,579 ft.; 1,747 ft. of 7-in. csg. cmtd. 8,579 ft.; T.D. 9,674 ft.; P.B. 8,579 ft.
Republic Prod. Co. No. 1 Sabine Tram. Co., sec. 25-18s-14w. 10¾-in. csg. 1,981 ft.; T.D. 9,600 ft.; fsg.
Union Sulphur Co. No. 1 American Oil & Sulphur Co., sec. 16-10s-10w. Drlg. sh. and L. 4,046 ft.
Wheeler Oil Corp. No. 2 Sch. Ld., sec. 16-9s-7w. R.U.

Cameron Parish

Humble O. & R. Co. No. 1 Miami Corp., sec. 8-14s-5w. 20-in. pipe set 188 ft.; 9⅝-in. csg. 7,100 ft.; drlg. sd. 9,471 ft.

Cameron Parish—Gulf of Mexico

Superior Oil Prod. Co. et al No. 1 State-Gulf of Mexico, 3,800 ft. W, 6,200 ft. S of SE cor. of irregular sec. 4-15s-8w. 10¾-in. csg. 1,157 ft.; drlg. L. 7,004 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Elliott, sec. 3-9s-2e. Drlg. sh. 7,254 ft.

Evangeline Parish

Schlicher Prod. Co. No. 1 J. A. Perkins, sec. 35. Top salt 4,924 ft.; drlg. salt 4,924 ft.; temp. abd.

Iberia Parish

Texas Co. No. 2-B Vermilion Bay, sec. 20-16s-5e. T.D. 8,971 ft.; fsg.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 125-12s-11e. T.D. 3,752 ft.; D.S. stuck.

Jefferson Davis Parish

Continental Oil Co. No. 1 Faye, sec. 31-10s-3w. 10¾-in. csg. 1,999 ft.; drlg. sd. and sh. 9,068 ft.
Humble O. & R. Co. No. 1 T. S. Stegall, sec. 20-9s-5w. 13⅜-in. csg. 2,032 ft.; drlg. sdy. sh. 7,085 ft.
Union Sulphur Co. No. 1 Calcasieu National Bank, sec. 12-9s-6w. T.D. 8,524 ft.; run 7-in. csg.

Lafourche Parish

Amerada Pet. Corp. No. 1 South Coast Corp., sec. 34-15s-19e. T.D. 8,745 ft. 9⅝-in. csg. 7,636 ft.; T.D. 9,718 ft.; rng. Schlumberger.
Gulf Oil Corp. No. 3 State P.P., sec. 36-23s-21e. Recvd. 1,000 ft. of oil on 6 min. D.S.T. at 6,749-6,846 ft.; 9⅝-in. csg. 6,832 ft.; drlg. 7,121 ft.; rec. 2,000 ft. P.L.O. on D.S.T. 6,958-70 ft.; T.D. 7,269 ft.; P.B. 6,971 ft.; top salt 7,741 ft.; T.D. 8,728 ft.; salt; using hole for geophysical work.
Wm. Helis No. 2 City of New Orleans, sec. 19-23s-23e. 10¾-in. csg. 2,646 ft.; top salt 7,946 ft.; T.D. 9,660 ft.; abd.

Plaquemines Parish

Gulf Oil Corp. No. 3 State (Jackson dist.) T.D. 8,204 ft.; I.P. 845 B.P.D., ¼-in. ck.

St. Bernard Parish

Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; T.D. 3,461 ft.; 7-in. csg. 3,461 ft.; drlg. sd. and L. 4,343 ft.
Texas Co. No. 4 State, sec. 14-10s-9e. Drive piling.

St. Martin Parish

Shell Pet. Corp. No. 1 Unit, sec. 11-14s-12e. Driving piling.
Texas Co. No. 10 St. Martin, sec. 15-8s-7e. Drlg. sdy. sh. and L. 8,766 ft.

St. Mary Parish

Shell Pet. Corp. No. 1 Barbour, sec. 21-15s-12e. Drlg. sh. 9,030 ft.
Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. 7⅝-in. csg. 10,515 ft.; T.D. 11,879 ft.; soft formation; P.B. 11,100 ft.; stuck 5¾-in. csg. while running to 10,745 ft.; washing to bttm.

TEXAS

Week Ending December 4

GULF COAST FIELDS

Lockridge—Brazoria County

Gulf Ref. Co. No. 3 Reiss, J. W. Hall Sur. Drlg. sh. 4,567 ft.
Gulf Oil Corp. No. 1 Great Southern, E. D. Robertson Sur. 9⅝-in. csg. 7,145 ft.; T.D. 9,227 ft.; fsg.; P.B. and sdtrkd.; T.D. 9,684 ft.; rng. 7-in. csg.
McCurdy and Johnson No. 1 State, Brazos River. Drlg. Sd.&L. 4,519 ft.; sdtrkd. hole; T.D. 6,385 ft.; perf. csg. 6,361-66 ft.; I.P. 18 bbls. dist. per day.
Shell Pet. Corp. No. 5-A Ramsey, J. W. Hall Sur. Drlg. sh. 6,280 ft.
Shell Pet. Corp. No. 3-B Ramsey, J. W. Hall Sur. No. 10. Drlg. sh. 1,412 ft.

Hastings Field—Brazoria County

Humble O. & R. Co. No. 3-B Alexander, H.T.&B. Sur. No. 28. Drlg. 4,790 ft.
Humble O. & R. Co. No. 5-D Beers, Perry and Austin Sur. Drlg. 5,745 ft.
Humble O. & R. Co. No. 4 King, H.T.&B. Sur. No. 29. Drlg. sh. 1,650 ft.
Humble O. & R. Co. No. 3 McDeed, H.T. &B. Sur. No. 30. T.D. 6,080 ft.; W.O.C.
Stanolind O. & G. Co. No. 3-B Avitts, H.T.&B. Sur. No. 29. Run 7-in. csg.
Stanolind O. & G. Co. No. 7 Brown, H.T. &B. Sur. No. 29. Drlg. sh. 2,776 ft.
Stanolind O. & G. Co. No. 2-A C. D. Brown, H.T.&B. Sur. No. 29. Cg. sdy. sh. 6,095 ft.
Stanolind O. & G. Co. No. 5 Cannon, H.T. &B. Sur. No. 36. Cg. sh. 5,585 ft.
Stanolind O. & G. Co. No. 14 Drake, H.T. &B. Sur. No. 36. Drlg. sh. 4,120 ft.
Stanolind O. & G. Co. No. 5 J. C. Hutcheson, H.T.&B. Sur. No. 36. Drlg. sh. 4,210 ft.
Stanolind O. & G. Co. No. 6 Pennock, H.T.&B. Sur. No. 36. Drlg. sh. 2,740 ft.
Stanolind O. & G. Co. No. 3 Reichardt, H.T.&B. Sur. No. 29. Cg. sd. 6,072 ft.
Stanolind O. & G. Co. No. 3 Remley, H.T. &B. Sur. No. 28. Drlg. sh. and shells 4,156 ft.
Stanolind O. & G. Co. No. 4 Roberts, R. A. Magee Sur. Drlg. sh. and L. 4,675 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 2 Armstrong, Polly & Chance Sur. Cg. sd. 9,127 ft.
Harrison & Abercrombie No. 1 Copeland-Osborne C. Breen Sur. Cg. sd. and sh. 10,987 ft.

Sandy Point—Brazoria County

H. J. DeArman No. 1 Edmundson, D. Talley Sur. T.D. 6,606 ft.; 5½-in. csg. 6,520 ft.; P.B. 6,500 ft.; perf. csg.: 6,505-90 ft. showed S.W.; perf. csg. 6,553-55 ft.; tstd. S.W.; abd.

West Columbia—Brazoria County

Sterling O. & R. Co. No. 1 Smith, Geo. Tennille Sur. Drlg. L. 2,735 ft.
Texas Co. No. 18 Abrams, George Tennille Sur. Drlg. sh. 5,017 ft.
Texas Co. No. 1 Goldman, G. Tennille Sur. Drlg. sh. 4,212 ft.
Texas Co. No. 5 Phillips, George Tennille Sur. T.D. 5,811 ft.; P.B. 5,660 ft.; tstg.
Texas Co. No. 3 Smith, G. Tennille Sur. R.U.

Calhoun—Heyser—Victoria County

Blanco Oil Co.-Buchannan No. 3 C. S. Dunnwoody, A. Sisneros Sur. T.D. 5,605 ft.; 7-in. csg. 5,602 ft.; tstd. gas; perf. csg. in 5,400-ft. sd.
Blanco Oil Co. and Buchanan No. 4 C. S. Dunnwoody, A. Sisneros Sur. Drk.
Blanco Oil Co. No. 5 Dunnwoody, A. Sisneros Sur. Drlg. sh. 5,510 ft.
George Echols No. 3 Lander, J. Galban Sur. Drlg. sh. 5,410 ft.
Gulf Oil Corp. No. 1 Bonner, J. E. Galban Sur. Cg. 5,698 ft.
Gulf Ref. Co. No. 2-B Traylor, J. E. Galban Sur. Loc.
Humble O. & R. Co.-Plymouth Oil Co. No. 5 Marshall, A. Sisneros Sur. T.D. 5,490 ft.; I.P. 350 B.P.D., 1/16-in. ck.
Humble O. & R. Co.-Plymouth Oil Co. No. 1 Vandeberg, J. Galban Sur. Drlg. sh. 660 ft.
Humble O. & R. Co.-Plymouth Oil Co. No. 15 E. H. Welder, J. M. Rios Sur. Bldg. drk.
Humble O. & R. Co. No. 18-B P. H. Welder, A. Sisneros Sur. R.U.
Magnolia Pet. Co. No. 3 O. M. Lander, J. E. Galban Sur. Spd.
Normandie Oil Co. No. 8 J. G. Cook, A. Sisneros Sur. Drlg. sh. 1,737 ft.
Sinclair Prairie Oil Co. No. 2 W. G. Bennett, A. Sisneros Sur. T.D. 5,739 ft.; I.P. 94 B.P.D., 3/32-in. ck.
Sinclair Prairie Oil Co. No. 5 Bennett, A. Sisneros Sur. Drlg. sh. 5,212 ft.
Sinclair Prairie Oil Co. No. 7 Wm. Bennett, A. Sisneros Sur. R.U.
Sun Oil Co. No. 4 Coffey, J. E. Galban Sur. Drlg. sh. 3,937 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 1 Hoffman, T&N.O. Sur. 131. T.D. 8,465 ft.; sd. and sh. showing oil; run 7-in. csg.
Sun Oil Co. No. 2-A Hebert-Broussard, T.&N.O. Sur. 127. Cg. sd. and sh.; show oil.

Hitchcock—Galveston County

N. W. Hunter No. 1 Maco Stewart, J. Spillman Sur. T.D. 5,157 ft.; 7-in. csg. 5,157 ft.; perf. 5,140-52 ft.; I.P. 474 B.P.D., 7/32-in. ck.

Silsbee—Hardin County

Republic Prod. Co.-Houston Oil Co. No. 1, G. W. Brooks Sur. 10¾-in. csg. 1,552 ft.
Republic Prod. Co.-Houston Oil Co. No. 24 Brooks, G. W. Brooks Sur. T.D. 6,905 ft.; 7-in. csg. 6,900 ft.; comp.; no gauge.
Republic Prod. Co.-Houston Oil Co. No. 25 Brooks, G. W. Brooks Sur. T.D. 6,940 ft.; flwg.; no gauge.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 1-B Dopslauf, W.C.R.R. Sur. No. 2, Blk. 1. 16-in. csg. 64 ft.; T.D. 3,530 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 M. E. Oates, Reels & Trobough Sur. T.D. 3,835 ft.; 7-in. csg. 3,835 ft.; flwg. wash wtr. and oil.

Friendswood—Harris County

Gulf Bd. Oil Co. No. 1 E. B. Ross, G. B. Burnett Sur. T.D. 6,505 ft.; abd.
Humble O. & R. Co. No. 1 Cox, Perry and Austin Sur. Drlg. sh. 5,450 ft.
Humble O. & R. Co. No. 1 Kiesling, T. Choate Sur. R.U.
Humble O. & R. Co. No. 1 Gail Whitcomb & Grandstaff, T. Choate Sur. Drlg. sh. 4,535 ft.
National Standard Oil Co. No. 1 Coward, Perry & Austin Sur. Loc.

LaBelle—Jefferson County

Sun Oil Co. No. 1 John Ward, 933 ft. S of No. 2 Broussard, Wm. Burton Sur. 18⅝-in. csg. 109 ft.; 9⅝-in. csg. 8,538 ft.; 7-in. csg. 9,951 ft.; T.D. 10,147 ft.; cmtd. off bttm.; perf. csg. 8,545-90 ft.; failed to flow; swbg.

Hardin—Liberty County

Atlantic Ref. Co. No. 1 Wm. McMurtry, H. B. Johnson Sur. Loc.
Jack Frazier No. 2 Lynott & Buffam, J. Robson Sur. R.U.
Jack Frazier No. 1 Buffam-Benning, J. Robeson Sur. R.U.
Gulf Oil Corp. No. 1 V. B. Hinson, H. B. Johnson Sur. 10¾-in. csg. 1,908 ft.; drlg. sdy. sh. 4,295 ft.
Halliburton Oil Prod. Co. No. 1 Hanchey, H. B. Johnson Sur. R.U.
Humble O. & R. Co. No. 1 Chambers, A. B. Hardin Sur. Drlg. sh. 5,544 ft.
Jameson-Bryon No. 1 W. B. Hinson, H. B. Johnson Sur. Core sh. 7,580 ft.
Shell Pet. Corp. No. 1 Cessna, A. B. Hardin Sur. Drlg. sh. 2,421 ft.
Strake Pet. Corp. No. 3 Finley, A. B. Hardin Sur. Cg. 7,310 ft.
Strake Pet. Corp. No. 4 Finley, A. B. Hardin Sur. Drk.
Strake Pet. Corp. No. 2 W. T. Finley, A. B. Hardin Sur. P.B. T.D.; perf. csg. 7,542-46 ft.; flwg. gas dist.
Sun Oil Co. No. 1 Cessna, A. B. Hardin Sur. R.U.
Woodley Pet. Co. No. 4 McMurtry, H. B. Johnson Sur. T.D. 7,597 ft.; 7-in. csg. 7,597 ft.; I.P. 568 B.P.D., ¼-in. ck.

South Call—Newton County

Houston Oil Co. No. 2 Sabinetram, 10¾-in. csg. 1,936 ft.; T.D. 7,123 ft.; 7-in. csg. 7,105 ft.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 Sloan, J. T. Belknap Sur. 10¾-in. csg. 1,200 ft.; drlg. sh. 4,812 ft.; no report.
Smith and McDannald No. 1 Gaines, E. Hall Sur. T.D. 8,212 ft.; 7-in. csg. 8,117 ft.

Buckeye—Matagorda County

United North & South Development Co. No. 1 G.B.M., Cotton Lge. 7-in. csg. 8,667 ft.; T.D. 10,500 ft.; fsg.

Palacios—Matagorda County

Atlantic-McCarthy No. 3 Foley Ld. Co., L. Goodwin Sur. Drk.
Glenn McCarthy No. 2 Foley, L. Goodwin Sur. T.D. 8,590 ft.; sdtrk.; T.D. 8,548 ft.; cmtd. 5-in. liner; perf. csg. 8,480-85 ft.; tstd. S.W.; abd.
Sun Oil Co. No. 1 Bay Shore Farms, Lewis Goodwin Sur. T.D. 11,327 ft.; 7-in. csg. 11,300 ft.; D.T.S.; fsg.

Orange—Orange County

Glenn McCarthy No. 1 Brown, B. Graner Sur. Cg. sh. 6,476 ft.
Gulf Oil Corp. No. 1 Orange National Bk., Wm. Dyson Sur. M.I.M.
Union Prod. Co. No. 2 Lutcher-Moore, Dyson Sur. R.U.

Segno—Polk County

Gulf Ref. Co. No. 2 Wing, I.&G.N. Sur. No. 15. Drlg. sh. 4,212 ft.

Spurger—Tyler County

Republic Prod. Co. No. 6 Hurd, N. Hurd Sur. Drlg. sdy. sh. 6,915 ft.

Keeran Field—Victoria

Union Oil Co. No. 8 Keeran Est., M. De-Leon Sur. Drlg. sh. 5,612 ft.

McFaddin—Victoria County

Barnsdall Oil Co. No. 1 J. A. McFaddin Est., Foster Lewers Sur. Drlg. sh. 2,810 ft.

Telfener—Victoria County

Gulf Oil Corp. No. 1 Mahon and Buhler, W. C. Carroll Sur. T.D. 6,167 ft.; P.B. and sdtrkd.; T.D. 7,667 ft.; rmg.; abd.

Magnet—Wharton County

Atlantic Refining Co. No. 7-B H. C. Cockburn, Smith and McKenzie Sur. T.D. 5,540 ft.; 7-in. csg. 5,540 ft.; I.P. 5 B.P.H. through ⅛-in. ck.
Humble O. & R. Co. No. 4 Cockburn, S. Castleman Sur. T.D. 5,542 ft.; tstg.

GULF COAST WILDCATS

Brazoria County

Pure Oil Co. No. 1 Smith, S. F. Austin Sur. Drlg. sdy. sh. 6,611 ft.
Texas Co. No. 4 Freeport Sulphur Co., C. Arriola Sur. 10-in. csg. 1,214 ft.; W.O.C.

Chambers County

Merit Oil Co. No. 1 T. & M. Wright, C. Smith Sur. T.D. 7,515 ft.; 7-in. csg. 6,602 ft.; perf. csg. 6,431-35 ft.; flwd. oil and S.W.; squeezed off perf.; reperf. csg. 6,431-33 ft.; flwd. 580 bbls. fluid per day, 30 per cent oil, balance S.W.
Standard Oil Co. of Texas and California Oil Co. No. 1 State Galveston Bay. Driving piling.

Colorado County

O. C. Garvey No. 1 Buback-Ernest, M. Lapham Sur. Drlg. S.W. sd. 5,240 ft.

Fort Bend County

Chapman Minerals Corp. No. 1 Sugarland Industries, Geo. Brown & Belknap Sur. Drlg. sh. 7,606 ft.

Grimes County

Hubert Holt No. 1 Greer et al, Patrick B. O'Connor Sur. Drk.

Hardin County

John Mayo No. 1 Hayden, W. K. Griffin Sur. T.D. 6,025 ft.; abd.

Harris County

Amerada-Stanolind O. & G. Co. No. 1 E. M. Wells, A. Larson Sur. R.U.
H. C. Cockburn No. 1 White, Harris & Carpenter Sur. Drlg. sh. 5,767 ft.
H. J. DeArman No. 1 Geiseka, Isaac Bunker Sur. Drlg. sh. 3,810 ft.
Stanolind O. & G. Co. No. 2 Warren Minerals, Walker Wade Sur. S.D. 6,036 ft.
Texas Gulf Prod. Co. No. 1 Rath, W. C. Sevey Sur. 10¾-in. csg. 1,483 ft.

Jackson County

Cockburn et al No. 1 Hodges, I.&.G.N. Sur. No. 7. T.D. 6,525 ft.; rng. 5½-in. csg. to bttm. to test upper sands.
Sam G. Harrison et al No. 1 H. A. Meyers, O. York Sur. 10¾-in. csg. 530 ft.; drlg. sh. 4,560 ft.
Magnolia Pet. Co. No. 1 West Ranch, R. Musquez Sur. Spd.

Jefferson County

Shell Pet. Corp. No. 1 W. P. McFaddin, S. A. Pace Sur. Cg. sd. showing oil 5,439 ft.; recvd. 450 ft. of oil on D.S.T. 5,396-5,408 ft.; T.D. 5,510 ft.; sd. and sh. showing oil; prep. to core.
Glenn McCarthy No. 1 J. E. Broussard, C. Hillbrand Sur. Drlg. sh. 3,837 ft.

Liberty County

Humble O. & R. Co. No. 1 E. J. Moore, M. Whittington Sur. T.D. 6,500 ft.; abd.
Humble O. & R. Co. No. 1-A E. F. Moore, B. Barrow Sur. R.U.

Madison County

Faucett & Kyle No. 1 Bailey, T. Boatwright Sur. T.D. 600 ft.
W. H. Lawrence No. 1 Gustavis, J. Woodruff Sur. Drlg. sd. 1,356 ft.; no report.

Matagorda County

Sun Oil Co. No. 1 Fred Robbins, C. H. Vandeveer Sur. Cg. sh. 7,457 ft.

Polk County

National Standard Oil Co. No. 1 W. T. Carter, M. S. Womack Sur. Drlg. sh. 1,137 ft.
Stewart Oil Co. No. 1 Galloway, J. Ringgold Sur. R.U.

Trinity County

Gossage-Green & Thompson No. 1 R. E. Thompson, J. A. Hickey Sur. T.D. 1,164 ft.; S.D.
Funk-Walker-Bilnoski No. 1 Trinity State Bank, B. F. Wright Sur. 10¾-in. csg. 150 ft.

Waller County

J. Brian Eby No. 1 Wm. Rice Institute, H. Stephens Sur. Cg. sh. 7,037 ft.
Stanolind O. & G. Co. No. 1 Security Trust Co., H.&T.C. Sur. Drlg. sh. 7,059 ft.

Wharton County

Strake Pet. Co. No. 1 Strunck, L. P. Jennings Sur. Drlg. sh. 1,837 ft.
Texas Co. No. 1 Johnson, John Bognad Sur. 10¾-in. csg. 1,095 ft.; drlg. sh. and L. 3,440 ft.

S. W. TEXAS WILDCATS

Atascosa County

L. W. Steiren No. 1 Crawford, 4 mi. W of Anchorage. T.D. 3,476 feet; chalk: bailed dry; pull tbg. and liner to drill deeper.

Bastrop County

J. W. Bibb No. 1 Lentz, F. Wilkenson Sur. S.D. 2,395 ft.; prep. to drill deeper.
Hantho-Nelson, Inc., No. 2 Litton, Cedar Creek Community. Top chalk 1,905 ft.; slight show of oil; S.D. 1,995 ft.
Sunrise Oil Co. No. 1 Smith, E. Standifer Sur. O.W.W.O.; old T.D. 2,486 ft.; S.D. 2,502 ft.

Bell County

W. H. Vernor No. 1 McQueen, 9 mi. S of Belton. S.D. 2,160 ft.

LEGAL

Department of the Interior, United States Land Office, Las Cruces, New Mexico. Notice is hereby given that Lots 3 and 4, NE¼ SW¼ Sec. 31, T. 25 S., R. 37 E., N. M. P. M., New Mexico, containing 119.86 acres in the Jal Field, New Mexico, are offered to the responsible qualified bidder of the highest bonus per acre for lease under section 17 of the act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674) at the royalty rate scale in the lease form shown in Circular 1386 at a sale to be held in the United States Land Office, Las Cruces, New Mexico, at ten o'clock, December 21, 1937. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for 1/5 of the amount bid, and file the showing of qualifications to receive a lease, required by section 7 of Circular 1386. The remainder of the bonus bid and the annual rental of $1 per acre must be paid prior to the issuance of the lease. The bidders are warned against violation of the provision of Sec. 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

Caldwell County

D. H. Wilson No. 1 Alexander, D. Benton Sur. T.D. 1,850 ft.; 7-in. csg. 1,800 ft.
Fain Gillock No. 1 Kelly, Berry Sur. Acd.; swbd. wtr. and oil; 5¼-in. at 1,457 ft.; T.D. 1,706 ft.; swbd. dry; S.D.
McNeill Pet. Co. No. 1 Moreno, Allen Sur. T.D. 1,752 ft.; flwg. est. 25 bbls. oil per day; R.U. to pump.

Dimmitt County

Texas & Maryland Corp. No. 1 McKnight. Blk. 13, sec. 23. Drlg. sh. and L. 4,755 ft.

Duval County

T. R. Andrews No. 1 Hazelwood, Hopkins Sur. R.U.
J. L. Collins & Co. No. 1 E. H. Hagist. B.S.&F. Sur. Abd. 2,318 ft.
James Hougen No. 1 Patton, Sur. 148. Drlg. sh. 3,900 ft.; no report.
Magnolia Pet. Co. No. 1 A. Lopez, M. Lopez Sur. No. 82. M.I.M.
Penn-Palangana Oil Co. No. 2 Schallert, Sur. 239. S.D. 3,330 ft.

Edwards County

Amon G. Carter No. 1 Sweeten, SE¼. Blk. 2, Sur. 49. T.D. 5,111 ft.; run protection csg.
Dan Auld No. 1 Henderson, sec. 46, Blk. E. Drlg. sdy. L. 1,865 ft.
C. V Lyman No. 1 Brown, Blk. 3. O.W. D.D.; T.D. 3,001 ft.; cleaning out hole.

Frio County

Pagenkopf & Jamieson No. 1 Houston Est., 2,254-ac. tr., J. Figuerroa Sur. S.O. 2,610-03 ft.; set csg. to test 7-in. at 2,480 ft.; swbg.; S.O.&G. and wash wtr.; T.D. 2,651 ft.; set csg.; P.B. 2,607 ft.; pmpg. 30 bbls. fluid per day, 60 per cent oil; fluid decreasing.

Goliad County

Goliad Oil Corp. No. 1-A Cole, Lot 33, Goliad town tr. T.D. 5,687 ft.; P.B. 5,609 ft.; prep. to perf. liner from 5,500 ft. to 5,603 ft.
Rual Swiger No. 1-B Wood, J. Shearn Sur. T.D. 5,048 ft.; S.W. sd.; oil sd. 5,044-48 ft.; perf. csg. 5,008-25 ft.; swbd. S.W.

Gonzales County

W. B. Osborn No. 1 Wells, Jose de la Baume Sur. 10-in. csg. 284 ft.; drlg. sh. 3,290 ft.

Guadalupe County

F. H. Gallagher No. 1 Howell, J. Darst Sur. No. 10. Loc.
Kreiger & Douglass No. 1 Oliver, R. Smith Sur. Drlg. 1,105 ft.
Mehu Oil Corp. No. 1 Schulze, Chenault Sur. S.D. 1,705 ft.
Riddle Oil Co. No. 1 C. A. Krueger, James M. Thompson Sur. 10-in. csg. 20 ft.; S.D. 725 ft.

Hidalgo County

Atlantic Ref. Co. No. 1 American Rio Grande. 7-in. csg. 8,505 ft.; cg. sh. 8,-728 ft.
Y. & B. Oil Co. No. 1 Waite, Tr. 382, Los Jidos Gr. T.D. 5,558 ft.; move in heavy rig; to reaume drlg.

Jim Hogg County

Darby Pet. Co. No. 1-C Holbein, Las Animas Gr. Drlg. sh. 1,322 ft.

Jim Wells County

H. M. Hill et al No. 1 Kuether, Lots 70 and 75, sec. 52, Haldeman Subd. S.D. 2,905 ft.
Howell et al No. 1 Talbot, 181-ac. tr., Lavaca Gr. T.D. 6,012 ft.; P.B. 5,179 gas, some oil; reperf. csg. 3,317-22 ft.; swbg.; showing S.W.
Magnolia Pet. Co. No. 7 Seeligson, 10,433-ac. tr. Los Jaboncillos Gr. T.D. 8,162 ft.; P.B. 6,770 ft.; perf. csg. 6,713-23 ft.; showed S.W.; perf. csg. 6,582 ft.
H. J. Porter No. 1 Charles E. Walcott, Zenobia Cuellar Sur. 10¾-in. csg. 228 ft.; 10-in. csg. 516 ft.; T.D. 5,514 ft.; abd.
Yukon Oil Co. No. 1 Shaeffer, Zenobia Cuellar Sur., sec. 11. 10¾-in. 228 ft.; T.D. 6,514 ft.; abd.

Karnes County

Ivan Howard No. 1 Moczygemba, Erasmo Seguin 5, League Gr. Top sd S.O. 2,-159 ft.; oil sd. 2,174-78 ft.; set csg. 2,187 ft.; T.D. 2,517 ft.; P.B. 2,178 ft.; tstg.

Kenedy County

La Sal Vieja Oil Corp. No. 1 Garcia L. & Cattle Co., Blk. 95, Tr. 73. Drlg. 7,-845 ft.

Kleberg County

Cinco Oil Co. No. 1 Killam, Lot 8, Blk. 53, Kleberg Town & Imp. Co. Subd. R.U.
Magnolia Pet. Co. No. 1 Dietz, Gabriel Trevino Sur. Spd.
Superior Oil Co. No. 1 Koch, sec. 32, Blk. 26. Set surf. csg.; drlg. sh. 5,380 ft.

LaSalle County

Ralph B. Reed No. 1 Yeager, Blk. 7, Sec. 8, Wallace Subd., Yeager ranch. S.D. 305 ft. (cor.).

Lee County

Jas. E. Pederson No. 1 Turner, David Hudson Sur. S.O.&G. 6,140-80 ft.; sdtrkd. at 4,600 ft. and drld. to 6,132 ft.; S.O.&G.; set csg. 6,021 ft.; acdzg. with 20-bbl. load; when opened well flwd. 20-bbl. head and went dead; swbd. oil and wtr.; acd.; pmpg. small amount of oil; S.D.
Elecousse Oil Co. No. 1 Sanders, J. Vin Roeder Sur. Drlg. chalk 3,950 ft.

Live Oak County

James Chew No. 1 Alma McNeil, Alexander Parks Sur. Spd.
C. G. Grimes et al No. 1 W. A. Friedle, Refugio Co. Sch. Ld. Sur. S.D. 1,900 ft.
Ranco Oil Corp. No. 1 Cook Ranch sec. 3, J. Poltevent Sur. S.D. 1,800 ft.
V. G. Schimmel No. 1 West, sec. 59, Haas Sur. R.U.
C. C. Shumway No. 12 Shiner, Shine Ranch Subd. Drlg. 920 ft.

McMullen County

Coyle & Bedwell No. 1 Two Rivers Rnch. Co., sec. 60. S.D. 10 ft.
Duncan Drlg. Co. No. 1 Martin Henry, sec. 6. Drlg. 587 ft.

Medina County

M. L. Walker No. 1 Riff, Hans Sur. No. 43. Drlg. sh. 1,512 ft.

Nueces County

Culton & Meador No. 1 Bailey Est., Blk. 65, J. Elliff Subd., Joaquin Lopez de Herrera Sur. T.D. 6,550 ft.; rng. Schlumberger survey.
L. A. Douglas No. 1 Charles McKenzie, Sur. 419. Drlg. sh. 1,510 ft.
Richardson Pet. Co. No. 1 Chapman, sec. 43, Laureles Farm Tr. No. 43. Drlg. sh. 3,380 ft.
Sannix Oil Co. No. 1 Nesloney, 760-ac. tr., Casa Blanca Gr. Drlg. sh. 6,125 ft.
Southern Minerals Corp. No. 3 King, Tr. 6. Drlg. 3,650 ft.
Southern Minerals Corp. No. 1 Walker, R. Garcia Sur. 10¾-in. csg. 1,016 ft.; drlg. 4,756 ft.
Union Prod. Co. No. 1 Simmons, 1,000-ac. tr., Agua Dulce Gr. Drlg. sh. 6,725 ft.

Refugio County

Hogan Oil Co. No. 1 Kelley, M. & A. Roache Sur. Cg. sd. 6,340 ft.

San Patricio County

Argo Oil Corp. No. 1 Soehnge, 159.66-ac. tr., Blk. 11, Schleicher & Joseph Subd., Delgado Gr. T.D. 4,962 ft.; top sd. 4,957 ft.; well tried to blow out; killed to deepen; T.D. 6,310 ft.; set 7-in. protective csg. 6,200 ft.; abd.
A. L. Bob No. 2 Green, T. T. Williamson Sur. Rec. S.W., 70 lbs. of pressure; D.S.T. 4,410-60 ft.
Conroe Drlg. Co. No. 1 J. R. Daugherty, James McGloin Sur. M.I.M.
Rutherford O. Corp. No. 1 George, Lot 12, Geo. Paul Subd. Drlg. sh. 5,622 ft.

Starr County

Collins No. 1 Guerra, Sh. 6, San Jose Gr. T.D. 6,176 ft.; 7-in. csg. 6,170 ft.; perf. csg. 6,125-27 ft.; no gauge.
Dodd Tr. No. 1 Wardner, Vela Sur., Porc. 84. S.D. 1,265 ft.
Sioux Oil Co. No. 6 Ricaby, Porc. 83. T.D. 1,751 ft.; abd.
Sun Oil Co. No. 1-F Guerra, Salvador Garcia heirs Sur., Porc. 109. Drlg. 3,-390 ft.
Transwestern Oil Co. and Davenport No. 3 Slick, sec. 527. T.D. 6,862 ft.; rec. all but 75 ft. pipe; S.D.

Travis County

W. O. Caffey No. 1 Bremond, 104.5-ac. tr., Santiago del Valle Sur. S.D. 545 ft.
D. E. Hamer No. 1 Benson, Wilson Sur. S.D. 400 ft.
LaShell, Gardner & Wilson No. 1 Wilson, Blk. 1. S.D. 727 ft.
J. E. Mills No. 1 Washington, Navarro Sur. S.D. 1,150 ft.

Victoria County

W. V. Bowles No. 1 Robertson, T. C. Burnham Sur. T.D. 6,121 ft.; P.B. to sdtrk.; T.D. 5,629 ft.; D.S.T. 5,610-29 ft.; showed 120 ft. of oil, 120 ft. of S.W.
Stanolind O. & G. Co. No. 1 Henderson & Pickering. T.D. 7,468 ft.; P.B. 6,424 ft.; 7-in. csg. 6,423 ft.; perf. csg. 6,375-82 ft.; tstg.

Webb County

Bridwell Oil Co. No. 1 Billings, Sur. 36. M.I.M.
Kirkwood & Morgan No. 1 Garcia, Villareal Sur. 720. Drlg. sh. 1,605 ft.
Lemp Oil Co. No. 1 Clark. 500-ac. tr., Porc. 33. Drlg. sdy. sh. 1,053 ft.
Lewis et al No. 1 Garza, Sur. 48. T.D. 2,215 ft.; S.D.
Mills Bennett Prod. Co. No. 1 Gates, Blk. 28, Sur. 200. T.D. 2,811 ft.; abd.
Mills Bennett Prod. Co. No. 2 Gates, N. A. Baker Sur. No. 22. Drlg. sh. 1,735 ft.
J. R. B. Moore No. 1 Garcia-Villareal, S. Mas Sur. Made 10-min. D.S.T. 2,420-30 ft.; tstd. 450 lbs. pressure; T.D. 2,-442 ft.; making D.S.T.
G. G. Mortimer No. 1 R. E. Welhausen, C.C.S.D.&R.G.N.G. Sur. No. 27. R.U.

Willacy County

Magnolia Pet. Co. No. 1 Armendiaz, Sh. 4, San Juan de Carricitos Sur. S.D. 7,144 ft.

Wilson County

Arnold, Dink, Stone & Haley No. 1 Black, 1,102.3-ac. tr., hrs. of Juan and Simon Arocha Sur. S.D. 985 ft.
Pattico Oil Co. No. 1 Keller, Karnes Co. Sch. Ld. Sur. R.U.

Zapata County

Covle-Callowav No. 1 Flores, Porc. 37. T.D. 2,510 ft.; abd.
Ray L. Martin No. 2 Vela, Sh. 4, E. L. Grullo Gr. 10-in. csg. 100 ft.; no report.

S. W. TEXAS PROVEN

Agua Dulce—Nueces County

Texon Roy. Co. No. 3 Driscoll-Sevier Chapman Part., Palo Alto Gr. T.D. 6,-727 ft.; tstg.
Union Prod. Co. No. 1 Galliday, Agua Dulce Gardens Subd., Benton Pastures. Drlg. sh. 5,310 ft.

LaSal Vieja—Willacy County

Shell Pet. Corp. No. 2 Yturria, Sh. 64, Carricitos Gr. Abd. 8,333 ft.

Batesville—Zavalla County

Wilcox O. & G. Co. No. 2 Gillam, G.W.T. &P.R.R. Sur. Cg. 3,675 ft.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

C. R. Cox, Tr., No. 1 Jan Lee, sec. 11, B.B.B.&C. Sur., NE cor. county. S.D. 240 ft.
H. P. Evans No. 1 J. T. Hall, 2 mi. N of Bangs, 220 ft. from N line and 11,008 ft. from W line of SW¼ sec. 25, H.T. &B.R.R. Sur. S.D. 400 ft.
Guyle Greynolds No. 4 A. Leatherwood, 5 mi. E of Cross Cut, 650 ft. from N line and 200 ft. from W line of E½ Blk. 11, Juan Dalgado Sur. Drlg. 1,-050 ft.
R. B. Irving et al No. 1 T. C. Giddings, 390 ft. from S line and 3,382 ft. from W line of J. J. Cleiland Sur., 1 mi. E Thrifty. Correct owner was Irving & Prairie Oil Co. Loc. 1,500-ft. test.
S. B. Roberts No. 1 Angell, 9 mi. SE Cross Cut, B. H. Garvin Sur. Drlg. 1,450 ft.
Ungren & Frazier and Paul Pitzer No. 1 Cox & McInnis, sec. 88, I. S. Tabor Sur. (map shows H.T.&B. Sur.). Drlg. 1,-790 ft.

Callahan County

Dudley Dev. Co. No. 1 Smith Hrs., 7 mi. NW of Oplin, 1,080 ft. from S line and 620 ft. from W line of W½ of SW¼ sec. 4, S.P.R.R. Sur., Blk. 1. Loc.; 2,-200-ft. test.
R. F. Gilman et al No. 1 W. A. Young, 5 mi. NW Clyde, sec. 37, B.B.B.&C. Sur. Drlg. 1,050 ft.
Hal Hughes No. 1 Poindexter, sec. 350, Geo. Hancock Sur., 2 mi. NE of Oplin. T.D. 3,175 ft.; S.D.
J. C. Jackson et al No. 1 Thompson, 2 mi. S Eula, sec. 30, B.B.B.&C. Sur. Drlg. 1,510 ft.
Phillips Pet. Co. No. 1 Cozart, 1 mi. NW Scranton, M. Cherry Sur. Drlg. 2,500 ft.
R. F. St. John No. 1 A. E. Dyer, 4 mi. NW of Clyde, 1,385 ft. from E line and 1,323 ft. from S line of sec. 40, B.B.B. &C. Sur. S.D. 600 ft.
Walker & Webb No. 1 Ross, 1 mi. NE Clyde, sec. 81, B.B.B.&C. Sur. S.D. 1,-500 ft.
Woodley Pet. Co. No. 1 Flores-Deep, 5 mi. SE of Baird, sec. 149, B.B.B.&C. Sur. Drlg. 2,275 ft.

Coleman County

J. F. Brock No. 1 J. H. Livingston, SE cor. SW¼ county, J. D. Waters Sur. No. 208. Drlg. 450 ft.
Dixie O.&G. Co. No. 1 Reaves, 6 mi. NW of Bangs, J. M. Rhine Sur. No. 629. S.D. 1,250 ft.
Walter L. Goldston No. 1 Conneley, 3 mi. NE of Santa Anna, 330 ft. from N and W lines of 30-ac. farm in H. Cochran Sur. Drlg. 1,200 ft.
McDonald & Campbell & Cunningham No. 1 R. M. Lowe, SE of NE¼ county, 1,-200 ft. from N line and 450 ft. from W line of J. C. Hunter Sur. M.I.M.; 1,350-ft. test; spdg.

Comanche County

N. D. Gallagher et al No. 1 Mrs. B. I. Terry, Desdemona pool, N. H. Kuykendall Sur. Drlg. 4,475 ft.
Dobbs Oil Co. No. 1 Hodges, sec. 11, Blk. 2, H.&T.C. Sur. Drlg. 2,300 ft.

Eastland County

G. D. Chastain et al No. 1 Weddington, 4 mi. N. Cisco, sec. 496. S.P.R.R. Sur. L. 3,315-30 ft.; est. 40 bbls.; S.D.
Hickok Prod. & Dev. Co. No. 1 J. E. Donovan, 5 mi. NW of Cisco, 660 ft. from N and E lines of NW¼ sec. 489, S.P. R.R. Sur. S.D. 450 ft.
J. D. Kittrell No. 1 Reynolds, 5 mi. E of Carbon, sec. 23, H.&T.C. Sur., Blk. 1, Drlg. 975 ft.
Lone Star Gas Co. No. 1 M. Thomas, 5 mi. NW of Cisco, 668 ft. from N line and 660 ft. from E line of SE¼ sec. 478, S.P.R.R. Sur. R.U.
Monark O. & G. Co. No. 1 Downtain, sec. 14 H.&T.C. Sur. Blk. 4, 3 mi. N Eastland. Drlg. 2,175 ft.
J. R. Nichols et al No. 1 R. W. Murray Hrs. 3½ mi. SE of Carbon, 330 ft. from N and W lines of SW¼ sec. 4, H.&T.C. Sur., Blk. 2. Loc. 2,100 ft.

Erath County

Arnold Oil Co. No. 1 McMillan, 2 mi. SE of Desdemona, T. H. Dixon Sur., Abst. 1,103. S.D. 3,085 ft.
J. Hickey et al No. 1 Smith, 5 mi. SE Desdemona, J. B. Smith Sur. Shot with 165 qts. 2,906-3,065 ft. in sd.; S.D.

Jones County

Gwynn & Overby et al No. 1 Mrs. W. D. Baker, 4½ mi. SE of Anson, 220 ft. from N and W lines of S½ of SE¼, sec. 36, O.A.L. Sur. R.U.
L. R. Terry et al No. 1 J. O. Bartlett, SE cor. county, 150 ft. from S and E lines of 40-ac. tr. in B.A.L. Sur., sec. 9. Loc.; 2,200-ft. test.
W. L. Herring No. 1 J. S. Dodge, 1½ mi. SW of Hawley, 2,450 ft. W and 1,320 ft. N of most southerly SE cor. of sec. 5, T.&P. Sur., Blk. 16. Drlg. 150 ft.

Jones County

E. P. Campbell et al No. 1 L. H. Lee, 5 mi. S Hawley, sec. 16, T.&P. Sur., Blk. 16. S.D. 1,965 ft.
Fain & McGaha Oil Corp. No. 1 Mrs. L. E. Williams, 3½ mi. SW Nugent, 220 ft. from S & W lines of NE¼ of Sec. 37, T.&P. Sur., Blk. 15. Drlg. 960 ft.
Felmont & Adams No. 1 Woodson, 1½ mi. SE Avoca, sec. 200, B.B.B.&C. Sur. Drlg. 2,985 ft.
Grisham & Hunter No. 1 E. D. Appling, NW¼ county, 1,208 ft. from S line and 1,450 ft. from W line of SW¼ sec. 32, B.B.B.&C. Sur. Drlg. 1,860 ft.
Mack Hayes and Montour Oil Co. No. 1 Chittenden, 7 mi. SE Hamlin, Subd. 18, McMullen & McGloin Sur. 337. Drlg. 2,185 ft.
T. D. Humphrey No. 1 Fielder, 2½ mi. E Anson, sec. 34, O.A.L. Sur. Drlg. 940 ft.
A. P. Kouri No. 1 J. C. Fielder et al, 5 mi. NW Nugent, 220 ft. from S and E lines of 80-ac. lse., sec. 2, T.&N.O. Sur., Blk. 2. Drlg. 1,775 ft.
Bells Wells Oil Co. No. 1 M. Caton. S.D.
Oil States Expl. Co. No. 1 Olson, 4 mi. N Avoca, sec. 182, B.B.B.&C. Sur. S.D. 2,265 ft.
Owen M. Murray et al No. 1 Rial, 2 mi. E Avoca, sec. 198, B.B.B.&C. Sur. L. 3,329-31 ft.; ¼ bbl. free oil per hr.; S.D.
Pet. Producers No. 1 J. S. Millsap et al, 3½ mi. SW Nugent, 220 ft. from S and E lines of NW¼ sec. 37, T.&P. Sur., Blk. 15. Sd. 1,927-44 ft.; shot 40 qts.; C.O.
Riddle et al No. 1 J. D. Freeman, 8 mi. SW Anson, sec. 6, T.&P. Sur., Blk. 17. S.D.
Roeser & Pendleton No. 1 fee, 2 mi. NW of Nugent, 2,800 ft. from N line and 3,240 ft. from W line of sec. 4, T.&P. Sur., Blk. 15. Drlg. 2,100 ft.
Shaheen Oil Co. et al No. 1 Jenson, 2 mi. E of Avoca, sec. 198, B.B.B.&C. Sur. Drlg. 2,530 ft.
Dale Smith & Bert Fields No. 1 C. L. Carter, 3 mi. SW of Nugent, 220 ft. from N and W lines of SE¼ of SE¼ sec. 37, T.&P. Sur., Blk. 15. Drlg. 1,100 ft.
Stanton & Miller No. 1 Gaither, 4½ mi. N of Anson, sec. 38, B.B.B.&C. Sur. S.D.
Ungren & Frazier No. 1 Manley Heirs, SE cor. of county, 660 ft. from N and W lines of sec. 44, T.&P. Sur., Blk. 14. Drlg. 1,890 ft.
C. E. Waite, Trust, No. 1 Ray, 3½ mi. SE of Stamford, sec. 7, D.&D.A. Sur. Drlg. 3,000 ft.

Mills County

Balyaet & Boyd No. 1 Westbrook, 7 mi. W of Goldthwaite, 4,950 ft. from S line and 4,290 ft. from W line of Caldwell Co. Sch. Ld. Sur. S.D. 650 ft.

Nolan County

Marland Drake No. 1 E. H. Woods, 6 mi. SW of Sweetwater, 1,320 ft. from S and W lines of sec. 65, T.&P. Sur., Blk. 21. Loc.

Palo Pinto County

Brazos River Gas Co. No. 5 M. B. Costello B, 1½ mi. N Pickwick, 1,397 ft. from N line and 150 ft. from W line of survey (W line being river bank). 660 ft. SW No. 4, R. R. Williams Sur. Drlg. 750 ft.
W. H. Clement No. 1 Federal Life Ins. Co., 2 mi. W Mineral Wells, sec. 51, T.&P. Sur., Blk. A (E of B), S.D. for pipe 400 ft.
Bill Cole et al No. 1 J. W. Harris Est., NW cor. county, De La Garza Sur. Drlg. 680 ft.
W. K. Gordon et al No. 1 Johnson, 5 mi. N Gordon, John Bird Sur. Drlg. 3,160 ft.
Henry Hobbs et al No. 1 Bessie Holt, 4 mi. S. Graford, sec. 1,783, T.E.&L. Sur. S.D. 200 ft.
King Oil Co. No. 1 S. F. Lee, 4 mi. NW Graford, 933 ft. from N and W lines of sec. 1744, T.E.&L. Sur. Drlg. 1,500 ft.
Ernest Lloyd et al No. 1 McClure, 3 mi. NE Graford, sec. 2,004, T.E.&L. Sur. S.D. 1,200 for csg.

Shackelford County

J. F. Baker No. 1 Merrick Davis, NE cor. of S½ of county, 330 ft. from N and W lines of sec. 21, T.&P. Sur., Blk. 13. S.D. 1,890 ft.
Joe DeGrazier No. 1 Harbough, E cen. part of county, sec. 1,563, T.E.&L. Sur. 4,500-ft. test; drlg. 90 ft.
Forest Dev. Corp. No. 1 T. G. Hindrick, NW cor. of county, 2,600 ft. from N line and 4,300 ft. from W line of sec. 1. A.B.&M. Sur. Drlg. 1,070 ft.
T. D. Humphrey No. 1 Alston, NE cor. county, sec. 16, H.&T.C. Sur., Blk. 3. Drlg. 1,180 ft.
C. J. Kleiner et al No. 1 Morris, 2 mi. NE Bluff Creek pool, sec. 187, E.T.R.R. Sur. Drlg. 1,710 ft.
Mesa Verde Oil Co. No. 1 Hennessey, 7 mi. E of SW cor. county, sec. 87, T.&P. Sur., Blk. 13. S.D. 1,600 ft.
Owens-Snebold Oil Corp. No. 1 Haterius, sec. 163, B.B.B.&C. Sur. L. 3,190-91 ft.; S.O.; cmtg.; will tube and treat.

Stephens County

Danciger Oil Ref. Co. No. 1 Mrs. Aileen Copeland, 8 mi. SE Ivan, 1,196 ft. from E line and 350 ft. from S line of sec. 1, M.E.P.&P. Sur. Drlg. 290 ft.
Graham, Hafner, Lane & Inman No. 1 J. N. Yocum, 5 mi. SE of Frankell, 250 ft. from N and E lines of farm or approx. 2,525 ft. from E line and 1,400 ft. from S line of John R. Carter Sur. Loc.
I. C. Little No. 1 R. M. Rogers, NE¼ of county, 150 ft. from E line and 1,980 ft. from S line of sec. 28, T.&P. Sur., Blk. 5. Drlg. 300 ft.
G. Willard Rich No. 1 M. M. Andrews, SW cor. county, 450 ft. from S line and 300 ft. from W line of N½ sec. 39, T. &P. Sur., Blk. 7. Loc.; 4,500-ft. test.

Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur. S.D.O. 2,140 ft.

Taylor County

Bert Fields et al No. 1 Sears, sec. 223, Blk. 64, H.&T.C. Sur. Drlg. 1,050 ft.

Dale H. Dorn No. 1 Hopkins, 1 mi. NW View, Subd. 20, sec. 120, Guadalupe Co. Sch. Ld. Sur. Drlg. 3,300 ft.

A. Findley No. 1 Bowles Est., NE cor county, sec. 26, B.A.L. Sur. Drlg. 2,000 ft.

Wichita Prod. Co. No. 1 E. Lincicum, NE cor. of county, 990 ft. from N line and 1,195 ft. from E line of NW¼ sec. 21, B.A.L. Sur. S.D. 685 ft.

Throckmorton County

Morris & Spoonts No. 1 Alden Bros., NW cor county, 1,350 ft. from E line and 5,210 ft. from S line of Raymond Sanches Sur. A-248. Loc.

Henry Zweifel No. 1 J. H. Lee, 4 mi. NE of Woodson, 930 ft. from E line and 2,011 ft. from S line of J. A. George Sur. Loc.

Wise County

Latex Oil Co. No. 1 Smith, 3 mi. E of Bridgeport, Jas. Couch Sur. T.D. 4,075 ft.; C.O. bridge; testing.

EAST TEXAS

(Border Counties)

Cass County

Bay Oil Corp. No. 4 Cobb, G. Crowder Sur. Set 7-in. 6,028 ft.; comp. 151 B.P.D., ¼-in. ck.; T.D. 6,091 ft.

W. C. Feazel No. 1 Parker, G. Crowder Sur. T.D. 6,090 ft.; set 7-in. csg. 6,030 ft.; T.D. 6,090 ft.

Union Prod. Co. No. 3 Bangus Unit, Tromwell Sur. Drlg. 3,570 ft.

Union Prod. Co. No. 1 Carter et al, Holmes Sur. Drlg. 6,110 ft.

Union Prod. Co. No. 5 fee 575, B. Holmes Sur. Sd. 6,039-51 ft.; 7-in. csg. 6,002 ft.; T.D. 6,070 ft.; comp. 179 B.P.D. on ¼-in. ck.; T.D. 6,070 ft.

Union Prod. Co. No. 4 J. S. Hall, J. N. Jackson Sur. Rmg.; T.D. 6,087 ft.; ran 7-in. csg. 6,076 ft.; comp. 11 B.P.H. on ¼-in. ck.; T.D. 6,087 ft.

Union Prod. Co. No. 3-A Starke, D. Gilliam Sur. 7-in. csg. 5,978 ft.; T.D. 6,050 ft.

Harrison County

Ark.-La. Gas Co. No. 1 C. M. Abney, E. Little Sur. Drlg. 725 ft.

Marion County—Rodessa

Arkansas-Louisiana Gas Co. No. 2 Wade Houston, Coy Sur. Drlg. 5,111 ft.

Geo. Barham No. 1 Brantley, Bennington Sur. Drlg. 3,421 ft.

Fohs Oil Co. No. 1 Kemper, Bennington Sur. Drlg. 1,162 ft.

Gulf Ref. Co. No. 1 Grubaugh, Coy Sur. Drlg. sh. 5,140 ft.

Gulf Ref. Co. No. 1 Kemper, Bennington Sur. Drlg. 4,688 ft.

Holcomb & Thomasson No. 1-B L. Henderson, U. Ewing Sur. T.D. 6,044 ft.; set 7-in. csg. 6,005 ft.; comp. 250 B.P.D. on ¼-in. ck.; T.D. 6,044 ft.

Heyser-Heard & Clardy No. 2 Henderson, R. Bennington Sur. Drlg. 340 ft.

Shell Pet. Corp. No. 1 Cooke, R. Benning ton Sur., 80-ac. tr. Drlg. 5,693 ft.

Shell Pet. Corp. No. 1 L. Henderson Unit, R. Bennington Sur. Drlg. 5,950 ft.

Shell Pet. Corp. No. 1-B Henderson, Bennington Sur. Drlg. 3,139 ft.

H. B. Turner et al No. 1 Scuddy, Ina Hanks Sur. Drlg. 4,700 ft.

Panola County

C. K. Crews No. 1 Graves, McGowan Sur. Drlg. 350 ft.

Danciger O. & G. Co. No. 1 Tatum, A. Bissell Sur. T.D. 6,514 ft.; perf. csg 5,253-49 ft.; tstd. S.W.; T.D. 6,514 ft.; P.B. and perf. 2,720 ft.

Magnolia Pet. Co. No. 2 E. A. Hull, Thos. Applewhite Sur. T.D. 8,717 ft.; P.B. 6,085 ft.; prep. recmt. and P.B.

WEST TEXAS WILDCATS

Andrews County

M. S. Forgeron et al No. 1 Lockhart & Brown, C NE¼ sec. 20, Blk. A-41, P.S.L. Sur. S.D. 179 ft.

Gulf Oil Corp. No. 1 State, sec. 8, Blk. 14. Drlg. 4,377 ft.

Honolulu Oil Co. No. 1-6 Parker, sec. 6, Blk. A-66, P.S.L. Sur. Spudding.

Bailey County

Duffey & Etz No. 1 Enochs, Tract 66 League 182, Floyd Co. School Lands Sur. Drlg. 4,055 ft.

Borden County

Continental Oil Co. No. 1-A Clayton, sec. 27, Blk. 32, Twp. 4n, T.&P. Sur. Drlg. 2,300 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd. sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 6,309 ft.

Storey No. 1 Wilson, sec. 3, Blk. 212, T.& St.L. Sur. S.D. 2,545 ft.

Cochran County

J. R. Meeker et al No. 1 Wright, Mills City School Land. R.U.R.

P. N. Wiggins et al No. 1 Dean, NE cor League 58, Martin Co. School Lands. T.D. 5,020 ft.; swb. 7 B.P.H.

Concho County

Sam Murray No. 1 R. G. Armor, sec. 105 T.&N.O. Sur. Drlg. 70 ft.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, sec. 39 Blk. W. T.&P. Sur. Drlg. 1,350 ft.

H. E. Ozden et al No. 1 Rawlins, sec. 390 Blk. B-21. Drlg. 515 ft.

Cottle County

F. P. Hinds et al No. 1 Lee, 5 mi. SW of Paducha, A.B.&M. Sur. Drlg. 3,905 ft.

Crane County

J. W. Hampton No. 1 Thackston, W. L. Wilkinson Sur.; drlg. 800 ft.

Wilcox O. & G. Co. No. 1 McKnight, sec. 9, Blk. 46, Twp. 3s, G.M.M.B.&A. Sur. T.D. 6,177 ft.; pipe stuck; fsg.

Crockett County

Moore Bros. No. 1 Perner, sec. 37, Blk. 2, I.&G.N. Sur. Fsg. 7,297 ft.

J. N. Simpson No. 1 Hoover, G.C.&S.F. Sur. Drlg.

Stewart & Cormas No. 1 Hoover, sec. 1, Blk. FF, B.B. Sur. S.D. 1,800 ft.

Culberson County

Grisham & Hunter No. 1 fee, sec. 14, Blk. 42, P.S.L. Sur. M.I.S.T.

C. A. Jarrell et al No. 1 C. M. Caldwell, C of SW¼ sec. 15, Blk. 100, P.S.L. Sur. S.D. 507 ft.; H.F.O.; drlg. water well 150 ft.

Dickens County

C. E. Litchfield No. 1 Harris, sec. 354, Blk. 1, H.&G.N. Sur. Fsg. 1,610 ft.

J. F. Morrisey et al No. 1 C. L. Bird, sec 290, Blk. 1, H.&G.N. Sur. Drlg. 1,910 ft.

Edwards County

A. P. Carter No. 1 F. D. Sweeten, S&E sec. 48, Blk. 2, B&B Sur., 1½ mi. E of Rock Spgs. T.D. 5,112 ft.; prep. D.D.

Fisher County

I. J. Allen No. 1 H. S. Newman, Lot 49, Bastrop Co. Sch. Lds. S.D. 3,450 ft.

Consolidated Oil Co. et al No. 1 Florida. Drlg. 3,555 ft.

Dean Bros. No. 1 Young. Drlg. 1,240 ft.

General Crude Oil Co. No. 1 Morrow sec. 185, Blk. 2, H.&T.C. Sur. Swabbing 3,498 ft.

Floyd County

Mills Bennett No. 1 T. Montgomery, F. J. Latham Sur., 6 mi. S of Floydada. Drlg. 2,480 ft.

Gaines County

Continental Oil Co. No. 2 Jones, sec. 1, Blk. A-8, P.S.L. Sur. S.D.O. 4,908 ft.

Mitchell & Sullivan No. 1 Shell, T. S. Riley, sec. 447, Blk. G, C.C.S.D.&R.G. N.G. Sur. Fsg. 4,849 ft.

Shell Pet. Corp. No. 1 M. B. Robinson, sec. 344, Blk. G, C.C.S.D.&R.G.N.G. Sur. T.D. 190 ft.

Garza County

M. L. Richards No. 1 Slaughter. Drlg. 2,263 ft.

Hockley County

The Texas Co. No. 2 Slaughter, Labour 92, League 37, Zavalla Co. Sch. Lds. W.O.C. 4,750 ft.

Howard County

W. F. McDermott et al No. 1 Lucas, sec. 18, Blk. 29, Twp. 1n, T.&P. Sur., 5 mi. N of Dodge pool. Drlg. 2,435 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp 6. Drlg. 3,416 ft.

Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. Drlg. 2,100 ft.

Jeff Davis County

H. D. Wilcox et al No. 1 Jones-Coffield. Drlg. 3,420 ft.

Loving County

Barnett Pet. Co. No. 1-A Johnson, sec. 2, Blk. 57, Twp. 1, T.&P. Sur. S.D.O. 3,705 ft.

Carpenter & Grierson No. 1 Mrs. Bennie Barnes, sec. 22, Blk. C-25, P.S.L. Sur. Loc.

Martin County

J. L. Green et al No. 1 O. B. Holt, C of Labour 20, Lge. 319, Garza Co. Sch. Lds. Drlg. 4,744 ft.

Harris-Anderson Oil Corp. No. 1 Mollie Robinson, sec. 33, Blk. 38, T.&P. Sur. Prep. spud.

Menard County

G. A. Clements No. 1 Murchison, sec. 80. B.S.&S. Sur., 8 mi. E. of Menard. Drlg. 265 ft.

Pecos County

Ed Falney No. 1 Trees, sec. 63, Blk. 8, H.&G.N. Sur. Run csg. 61 ft.

Humble O. & R. Co. No. 1 Belding et al. 9 mi. SW of Ft. Stockton. Drlg. 2,638 ft.

Humble O. & R. Co. No. 1 Butz, sec. 104, Blk. O.W. Drlg. 575 ft.

Humble O. & R. Co. No. 1 Pryor, sec. 100, Blk. OW. Drlg. 179 ft.

Messenger & Osborn No. 1 Humble-Young, sec. 49, Blk. 10, H.&G.N. Sur. Prep. to acidize 1,807 ft.

S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 6,475 ft.

Thompson & Minshall No. 1 Michaelson, 660 ft. N and W, sec. 24, Blk. 146, T.& St.L. Sur. Drlg. 1,540 ft.

Wilcox O. & G. Co. No. 1 Serf, sec. 27 Blk. 130, T.&St.L. Sur. Drlg. wtr. well.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Run csg. 3,855 ft.

Reeves County

Barnett Pet. Corp. No. 1 Ely, sec. 38, Blk. 71, P.S.L. Sur., 12 mi. NW of Toyah. Drlg. 1,882 ft.

Runnels County

Homer Price No. 1 Beddo, sec. 51, Thompson Casey Sur. Drlg. 2,465 ft.

E Z Oil Co. No. 1 B. Fletcher, E. C. Good Sur. T.D. 4,394 ft.; prep. plug back 4,384 ft.

Schleicher County

J. M. Cooper No. 2 B. Page, sec. 40, Blk. L, G.H.&S.A. Sur. Drlg. 4,703 ft.

Tex-Tor Oil Corp. No. 1 Judkins & Spencer, C of SW¼ sec. 33, Blk. A, A.&B. Sur. Drlg. 4,945 ft.

Scurry County

Robinson Drlg. Co. No. 1 Martin, sec. 147, H.&T.C. Sur. Drlg. 3,462 ft.

T. G. Shaw Oil Co. No. 1 First Natl. Bank. C.O. 2,422 ft.

Sterling County

Wilcox O. & G. Co. No. 1 Kinnebrew Est., sec. 101, Blk. 2, H.&T.C. Sur. P.B. to abandon.

Sutton County

Ordovician Oil Co. No. 1 Evans, sec. 1, L. Stubblefield Sur., 32 mi. SE of Sonora. S.D. 3,475 ft.

Terrell County

D. & S. Oil Co. No. 1 Sam Bell. S.D. 345 ft

Terry County

C. H. Hutto No. 1 Brownfield, E.L.R.R. Sur. S.D. 670 ft. for pipe.

Tom Green County

Humble O. & R. Co. No. 1 Lewis & Wardlaw, sec. 5, Blk. 17, H.&T.C. Sur. Drlg. 3,150 ft.

Upton County

Rutter et al No. 1 Egolb, sec. 5, J. H. Gibson Sur. Drlg. 3,080 ft.

J. S. Pitman No. 1 D. Elder, C.C.S.D.& R.G.N.G. Sur., Blk. 3, sec. 14. Drlg. 400 ft.

Ward County

M. J. Delaney No. 1 J. E. Cooper, H.&T.C. Sur. Loc.

Hoss & Downey No. 1 Ross Avery, sec 36, Blk. 1, H.&T.C. Sur. Setting csg. 45 ft.

L. F. White et al No. 1 Rector-Monroe, E cor. sec. 3, Blk. 1, W.&N.W. Sur. S.D. 4,710 ft.

Yoakum County

American Liberty Oil Co. No. 1 A. C Thomas, 2,227 ft. S and 440 ft. W, sec 864, Blk. D. W.O.C. 5,030 ft.

J. W. Murchison et al No. 1 Sawyer, SE¼, sec. 702, Blk. D. Drlg. 3,105 ft.

Skelly and Sun Oil Co. No. 1 Kiser, sec. 640, Blk. D. Tstg. 5,300 ft.

Standard of Texas No. 1 M. B. Sawyer, sec. 576, Blk. D, J. H. Gibson Sur. T.D. 5,403 ft. (tstg.).

Texas Co. No. 1 Walker, sec. 794, Blk. D. El. 3,656 ft.; T.D. 5,180 ft.; P.B. to 5,162 ft.; shot; acid.; swbg. oil and wtr.; P.B. 5,162 ft.; tstg.

P. N. Wiggins et al No. 1 Bartlett, sec 350, Blk. D. U.R. 1,683 ft.

E. C. TEXAS WILDCATS

Anderson County

Humble O. & R. Co. No. 1-C Southern Pine Lbr. Co. Cg. 8,526 ft.

H. L. Parsons No. 1 H. B. Hemby, 7 mi NE of Navarro. Drlg. 4,190 ft.

Angelina County

J. C. Bonham No. 1 Cameron Lbr. Co E. Miller Sur., 3 mi. SE of Zavalla. 10-in. csg. set 195 ft.; W.O.C.

C. E. Parrott No. 1 J. C. Burres, W. Plucker Sur., 2½ mi. W of Huntington. Drlg.

Bowie County

King Oil Corp. No. 1 W. W. Ames, 800 ft. S and 1,650 ft. E of J. A. Tolbott Sur., 4½ mi. NW of Texarkana. Drlg.

Falls County

McCleod et al No. 1 F. Bolton, J. R. Cockrill Sur., 4 mi. NW Rosebud. Fsg. 1,708 ft.

Freestone County

C. E. Rossiter No. 1 J. P. Fulton in J. P Fulton Sur., 2½ mi. E of Donie. S.D. 956 ft.

Grayson County

Denver Prod. & Ref. Co. No. 1 E. B. Moore, E. Barnes Sur., ½ mi. NW of Whitesboro. Drlg. 200 ft.

Gregg County

Humble O. & R. Co. & Gulf O. Corp. No. 1 E. Robertson, M. Mann Sur., 2¼ mi. SW of Longview Trinity test. El. 272 ft.; cg. 7,430 ft.

Henderson County

Tide Water Assoc. et al No. 2-C McElreath & Suggett, W. P. Wyche Sur. T.D. 9,320 ft.; P.B. 8,890 ft.; tstg. gas T.D. 9,320 ft.; P.B. to 8,038 ft.; P.C. 7,910-50 ft.; flw. ½-in. T.C. 13 bbls. dist. per hr.; 8,000,000 ft. gas; T.P. 1,850 lbs.; C.P. 2,500 lbs.

Hill County

I. Willis No. 1 W. P. Ball, S. Marshall Sur., 3 mi. NW of Covington. M.I.M.

Hopkins County

Abbott & Ruthland No. 1 Peyton, J. Burkham Sur., 2½ mi. N of Sulphur Bluff. S.D.W.O.; T.D. 4,300 ft.

Limestone County

C. L. Brown No. 27 N. B. Boyd, R. B. Longbotham Sur., 3 mi. S of Wortham. T.D. 1,402 ft.; oil sd.; rng. csg.

Pure Oil Co. No. 16-T Kendrick, P. Varella Sur., Mexia field. T.D. 8,847 ft.; D.S. stuck.

Stanolind O. & G. Co. No. 1 T. Norris, in Thresher Sur., 5 mi. N of Kosse; 6,500-ft. test; elev. 528 ft.; drlg. 6,793 ft.

Navarro County

Mrs. Jane Robinson No. 1 Fortson Bros., Eli Smith Sur., 5 mi. NE Corsicana. Drlg. 1,730 ft.

T. Sharpe et al No. 1 E. B. McDowell, T. Jordan Sur., 1½ mi. S of Bassets. S.D. 2,970 ft.

Rusk County

J. W. Shipman et al No. 1 Citizens Bank. J. J. Y'Barbo Sur., 4 mi. NE of Henderson. T.D. 4,500 ft.; D.&A.

Trinity County

Billnoski et al No. 1 Trinity State Bnk., B. F. Wright Sur., 2 mi. S of Trinity. Drk.

Upshur County

L. & G. Oil Co. No. 1 H. Williams, Roeder Sur., 2 mi. NW of Gracetown. R.U.

NORTH TEXAS WILDCATS

Archer County

A. P. Lieser No. 1 W. E. Brown, sec. 2,421, T.E.&L. Sur. S.S.O. 1,411-14 ft.; tstg.

E. C. Worwood et al No. 1 W. P. Ferguson, sec. 4, F. Peterswick Sur. A-343. 6⅝-in. 3,811 ft.; W.O.C.

Baylor County

H. J. Baker No. 1 J. R. Martin, sec. 233, T.&N.O. Sur. Drlg. 1,800 ft.; S.D.O.

Clay County

Healdton O. & G. Co. No. 1 Wallace, Belcher Subd. Drlg. 2,330 ft.

Cooke County

Byars & Nenny No. 1 W. A. Scroggins, S. P. Yearwood Sur. A-1,554. Spd.

W. O. Russell No. 1 Bundy P. Cady. Sur. Testing S.S.O. 2,164-68 ft.

W. O. Russell No. 1 J. W. Sherrill, Wm. Phelps Sur. A-821. Drlg. 1,810 ft.

Denton County

W. C. Curry et al No. 1 G. F. Owens, N. Rudder Sur. A-1,060. Show gas 1,235-50 ft.

Bruce Lee No. 1 Boyles, S. Ross Sur. A-112. Drlg. 1,880 ft.

Wells-Dodson-Pearson No. 1 Hughes, B.B.B.&C. Sur. A-1252. S.D.O. 2,200 ft.

Foard County

O. P. Burnham No. 1 T. L. Ward, sec. 21, H.&T.C. Sur. S.D.O. 2,361 ft.

Texas Co. No. 14 Johnson, sec. 37, S.P. R.R. Sur., Blk. L. Drlg. 3,580 ft.

Grayson County

Denver P. & R. Co. No. 1 E. B. Moore, E. Barnes Sur. A-43. Drlg. 175 ft.

Pearson Tubing Co. No. 1 J. H. Thompson, W. A. Warner Sur. A-1350. Drlg. 3,100 ft.

Jack County

J. B. Burris No. 1 W. J. Eatherly, John Helmstutler Sur. A-1,267. Drlg. 2,550 ft.

Hamilton Pet. Co. No. 1 Johnson Brothers, Spottswood Sur. A-531. Drlg. 3,300 ft.

Hammon, W. H., No. 2 George E. Evett, sec. 2, W.C.R.R. Sur. Drlg. 3,000 ft.

Hanlon-Buchanan, Inc., No. 1 Ed M. Myers, N. F. Rudmose Sur. A-1,803. Cg. O.S. 2,711-17 ft.; show oil.

Hanlon-Buchanan, Inc., No. 1-A E. R. and W. Worthington, S.A.&M.G. Sur. A-589. 6⅝-in. 2,350 ft.; O.S. 2,360-70 ft.; bailing. 6 bbls. per hour; P.O.P.

L. C. Harrison No. 1 L. S. Wright et al, Z. S. Brooks Sur. A-64. Drlg. 2,350 ft.

Nelson Oil Synd. No. 1 J. E. Henderson A. T. J. Walden Sur. A-914. 6⅝-in. 2,738 ft.; W.O.C.

Taubert & McKee No. 1 R. H. Eatherly, J. H. Henderson Sur. A-1,749. Spud. and S.D.

Van Eman & Richards No. 1 Whitsell, Wm. McElroy Sur. A-559. Drlg. 1,200 ft.

Montague County

J. W. Sorrell et al No. 1 J. E. Walthall, Sam H. Smith Sur. A-662. Drlg. 2,500 ft.

Wichita County

Burk Royalty Co. No. 1 W. L. Hodges, Lot 8, H.T.&B. Sur. A-139. 6⅝-in. 3,753 ft.; W.O.C.

Consolidated Oil Co. No. 1 W. P. Ferguson, William Spillers Sur. A-257. O.S. 3,704-11 ft.; rng. pipe to test.

W. E. Hammon No. 1 Mrs. H. Laik, Blk. 284, W.C.S. Sur. Drlg. 920 ft.

King Oil Co. No. 1 J. L. and T. J. Waggoner, Blk. 8, M. A. Willis Sur. Drlg. 3,200 ft.

Melat & Graham No. 1 J. and J. Waggoner, W. R. Eaves Sur. A-753. Tstg. B.O.S. and lime 3,806-3,900 ft.

Staley Oil Co. No. 1 First National Co., Blk. 44, K.W.V.F.L. Sur. Shot L. and O.S. 3,817-77 ft.; 480 qts.

E. J. Stump No. 1 M. P. Bishop, L. Netherley Sur. A-240. S.L. 3,885-86 ft.; rng. 6⅝-in.

Clyde Texan Oil Fields Co. No. 1 A. W. Burnside, John M. Sharp Sur. A-262. Shot S.L. 3,935-51 ft.; tstg.; W.O. R.R. Com. test.

Wilbarger County

Barry & Hayes No. 1 McGill, sec. 3, Blk. 9, H.&T.C. Sur. S.D. 3,030 ft.

W. Little No. 1 A. P. Morris, sec. 3, H.T. &C. Sur., Blk. 14. Drlg. 1,325 ft.

Phillips Pet. Co. No. 1 W. T. Waggoner "Barger," sec. 11, H.&T.C. Sur., Blk. 14. Drlg. 2,100 ft.

W. W. Woolsey et al No. 1 Waggoner A, sec. 3, S.P.R.R. Sur. A-535. Drlg. 1,475 ft.

Wise County

Latex Oil Co. No. 1 C. R. Smith, J. Couch Sur. A-104. C.O. bridge; tstg.

Young County

Anzac Oil Corp. No. 1 E. S. Graham, A. Hines Sur. A-135. Drlg. 2,930 ft.; tstg.

Beavers, C. E., et al No. 1 Cooper, sec. 81, T.E.&L. Sur. 6⅝-in. 1,185 ft.; O.S. 1,185-87 ft.; flowing.

(Continued on Page 120)

West and North Texas

By MITCHELL TUCKER

31 LOCATIONS IN W. TEXAS; PROSPECTIVE POOL IN PECOS

FORT WORTH, Tex., Dec. 6.—For the past seven-day period 31 new locations were staked in the West Texas territory, seven of which were for wildcat tests. As the week closed there were 347 wells drilling in that area. New completions numbered 43, of which nine were dry holes.

New Wildcats

The seven new wildcat locations are widely scattered throughout the basin area, one each being in Cochran, Cottle, Crane, Crockett, Terry, Upton and Ward counties. In Cochran County, J. R. Meeker and others No. 1 Wright, Mills County School land, is rigging up rotary. F. P. Hines and others No. 1 Lee, 5 miles southwest of Paducah in Cottle County, is drilling below 3,900 feet. In Terry County, C. H. Hutto No. 1 Brownfield, in the E.L.R.R. Survey, is shut down at 670 feet awaiting pipe. Another wildcat for Upton County, J. S. Pitman No. 1 Elder, C.C.S.D.&R.G.N.G. Survey, is drilling at 400 feet. The M. J. Delaney No. 1 J. E. Cooper, H.& T.C. Survey, is a new location proposed as a wildcat test in Ward County.

Shallow Pecos Discovery

A new producing area in northwestern Pecos County, along the active Pecos River area, was promised last week. The shallow wildcat test, C. C. Dorr and others No. 1 B. R. Payton, section 99, Block 8, H.&G.N. Survey, topped the sand at 1,985 feet, and at the present total depth of 2,037 feet production tests are being made. First oil showings were encountered at 2,003 feet, with good increases noted in broken sands from 2,033 to 2,036 feet. The well is now heading, and flowing at the rate of about 5 bbls. hourly, with 100,000 feet of gas daily.

Ordovician Setback

Gulf Oil Corp.'s second Ordovician test on its Waddell farm in western Crane County was disappointing last week. No. 6 W. N. Waddell, one-quarter of a mile west offset to the company's No. 5 which flowed 8,200 bbls. daily during flush test, missed this prolific oil pay and after coring from 6,112 to 6,126 feet the well began flowing sulfur water. On test the sulfur water gauged about 100 bbls. per hour, with small scums of oil showing. The No. 6 well was running about 118 feet low on the Simpson lime when correlated with the No. 5 producer from the same zone.

In Crockett County, Moore Brothers Corp. No. 1 Paul Perner, I.&G.N. Survey, another test of the Ordovician beds is now drilling below 7,840 feet in sandy shale.

Ector County

Ector County continues the most active West Texas area, with 12 rigs and 50 drilling wells reported active last week. Completions for the seven-day period numbered 12, having an aggregate initial production of 11,673 bbls.

Principal interest of the area just now is upon a possible 1¼-mile extension to the Harper pool in the south-central part of the county. Fred Turner No. 1-A Parker, T.&P. Survey, section 16, Block 44, at a total depth of 4,317 feet had cleaned out to bottom and was running tubing for a production test after shooting with 400 quarts. It has been estimated from drilling logs and showings that this well will be good for around 350 bbls. daily, and if so, an important extension will be added to the Harper field.

NORTH TEXAS DISTRICT

The Texas Railroad Commission's first hearing on the deep sand (separate pool) production in the K.M.A. field was held at Wichita Falls, Tex., on November 30. By almost unanimous approval of the operators in that area, a recommendation was made to the commission that the new sand area be set up as a separate proration unit, and allocation between individual wells and tracts be 50 per cent upon acreage and 50 per cent upon potential, with maximum spacing at one well to 20 acres, and allowances for wells already drilled upon smaller tracts. The commission took this recommendation under consideration, but has not yet acted upon the matter.

Three important extension wells at K.M.A. are in the testing stage as the week closes, any one of which could add several hundred acres of proven area to the field if completed as a producer. A possible mile west extension from the Kadane gusher, Consolidated Oil Co. No. 1 W. P. Ferguson, in the Spiller Survey, topped a well saturated sand at 3,900 feet and after taking 20 feet of penetration set pipe preparatory to testing. In the extreme southwestern part of the field, just across the Archer County line, E. C. Norwood No. 1 W. P. Ferguson, Peterswick Survey, promises an important extension in that direction as they prepare to drill plugs. To the east an equally important wildcat picked up the saturation at a favorable level, and E. J. Stump No. 1 Mary Putman Bishop, Netherly Survey, is setting casing.

There are now 9 locations rigging up and 42 drilling wells at the K.M.A. field, all having the 3,800-3,900-foot sands as their objective. Three new completions were made in that level last week, having an aggregate initial production of 1,600 bbls.

WEST CENTRAL TEXAS

Three new producers are due to be completed in the active Rotan field of northern Fisher County next week. Most promising of these is the Sunray Oil Co. No. 6 Joe Robinson, H.&T.C. Survey, which flowed at the rate of about 50 bbls. hourly while tools were still in the hole. Saturation was taken from 3,510-20 feet, and casing will be set preparatory to completion.

Avoca Extension

The possible 5-mile extension northeast from the Avoca field into Shackelford County continued to look attractive, and as the week closed preparations were being made to drill plugs and test. The Owens-Snebold and others No. 1 H. B. Haterius, NE cor. section 163, B.B.B.&C. Survey, set 6-inch casing at 3,212 feet after taking penetration in what appeared to be well saturated Palo Pinto limestone. The well headed and made several small flows while operators were running 6-inch casing. A producer here would add several thousand acres to the proven and undeveloped area of the Avoca field, and would result in one of the year's major discoveries. Some speculation continues as to whether or not this 5-mile extension well is in a connected and common reservoir with the production thus far developed to the southwest, but additional inside drilling will be necessary to establish this point.

TEXAS PANHANDLE

Twenty oil and four gas wells comprised the new completions in the Texas Panhandle area last week. Aggregate potential of the 20 oil producers was 8,800 bbls., while the four gassers tested an open flow of 239,490,000 feet.

There are 206 drilling operations in the Panhandle, and of this number, 12 are deep wildcat tests and the remainder within the proven gas or oil producing territory.

Along the uppermost row of counties in the Panhandle, attention is centered upon the Ochiltree County wildcat being drilled by James R. Macon in the H.&T.C. Survey. His No. 1 Norris, in section 212, Block 43, reported porosity and a showing of oil just above the present total depth of 5,404 feet. A Schlumberger survey was made, and operators are preparing to make drill stem tests.

In Floyd County the Mills Bennett Production Co. No. 1 Montgomery, Latham Survey, a proposed 6,000-foot test, is drilling below 2,550 feet.

WEST TEXAS COMPLETIONS

Andrews County

In the Means field, Humble Oil & Refining Co. No. 32 J. S. Means, 4,503-48 feet, flowed 252 bbls. per day. No. 14 R. M. Means, 4,475-4,562 feet, 762 bbls. per day.

A wildcat test, M. J. Delaney No. 1 H. A. Moore, was abandoned as dry at 4,579 feet, after pumping 355 bbls. of water and 15 bbls. of oil in 24 hours after acidizing.

Cochran County

Wiggins and Hyde No. 1-A Slaughter and Dean, wildcat test, has been abandoned at 5,085 feet as dry.

Crane County

Gulf Oil Corp. No. 13 Tubbs, 4,400-20 feet, 53 bbls. per day.

Dawson County

Ray Albaugh and others No. 1 John Robinson, 4,995-5,038 feet, 10 bbls. per day.

Ector County

In the Foster area, York and Harper No. 2 Bagley, 4,210-4,377 feet, 427 bbls. per day. T. & P. Coal & Oil Co. No. 1 H. C. Foster, 4,000-4,188 feet, 485 bbls. per day. Sinclair-Prairie Oil Corp. No. 2 Johnson, 4,160-4,249 feet, 413 bbls. per day.

In the Goldsmith field, Atlantic Refining Co. No. 1-F Cummings, 4,150-4,284 feet, 520 bbls. per day. Phillips and Pure No. 17 Cowden, 4,110-55 feet, 2,924 bbls. per day. Amerada Petroleum Corp. No. 3 Cummings, 4,191-4,253 feet, 564 bbls. per day. Gulf Oil Corp. No. 50 Goldsmith, 4,110-4,205 feet, 2,089 bbls. per day; No. 52 Goldsmith, 4,190-4,245 feet, 400 bbls. per day.

Honolulu and Black No. 2-A Cowden, Harper pool, flowed 822 bbls. per day from 4,049-4,321 feet.

In North Cowden field, Stanolind Oil & Gas Co. No. 60 Cowden, 4,053-4,230 feet, 632 bbls. per day. Landreth No. 2-L Scharbauer, 4,148-4,210 feet, 1,072 bbls. per day. Broderick and Calvert No. 3-2 Cowden, 3,912-4,286 feet, 1,325 bbls. per day.

Fisher County

Snowden and McSweeney No. 1 Sybil Howard, Rotan field, 742 bbls. per day, 3,507-17 feet.

Gaines County

Wasson field, Carter No. 1-A Langdon, 4,908-80 feet, 725 bbls. per day.

Howard County

Snyder area, Iron Mountain Oil Co. No. 2 Snyder, 2,590-2,800 feet, 782 bbls. per day.

Jones County

Fain-McGaha and Sinclair No. 1 F. Olson, extension well to the Avoca field, tested 816 bbls. in 18 hours, 3,210-18 feet.

Two wildcat tests were abandoned in Jones County. Falls Refining Co. No. 1 Harriss, total depth 2,280 feet, and Ungren and others No. 1 Ekdal, total depth 3,306 feet.

Pecos County

Cardinal Oil Co. No. 20-A Smith, Tippett-Toborg field, 17 bbls. per day, 335-403 feet.

Upton County

In the McCamey field, Blane Oil Co. No. 4 Powell, was completed without initial gauge, total depth 2,710 feet. Gulf Oil Corp. No. 14 Shirk, 2,220-2,310 feet, 792 bbls. per day. Humble Oil & Refining Co. No. 6-B

Ricker, 2,632-45 feet, 70 bbls. per day; No. 7-B Ricker, 2,279-79 feet, 590 bbls. per day. Basin Oil Co. No. 7-B Baker, 2,295-2,360 feet, 1,147 bbls. per day. Stoval No. 48 Burleson, 2,020-40 feet, 120 bbls. per day. Cardinal Oil Co. No. 6 Wooley, 2,145-61 feet, 622 bbls. per day.

A wildcat test, Robinson and Coleman No. 1 Kincaid, 2,095-3,002 feet, dry and abandoned.

Presidio County

J. F. Saddler No. 1 J. R. Bledsoe, dry and abandoned, total depth 3,000 feet.

Reagan County

K. E. Sherman No. 1 Friend, dry and abandoned, total depth 2,488 feet.

Runnels County

Stephens and Glover No. 1 Fowler, dry and abandoned, total depth 1,095 feet.

Tom Green County

Webb Brothers No. 1 Schrievener, depth 644 feet, dry and abandoned.

Ward County

Grand Falls field, T. & P. Coal & Oil Co. No. 22 James, 2,349-2,524 feet, 304 bbls. per day.

Winkler County

At Hendricks, Humble Oil & Refining Co. No. 10-B Colby, 2,676-3,040 feet, 151 bbls. per day.

Stanolind and others No. 2 Hendricks, Henderson area, 3,056-90 feet, 1,183 bbls. per day. W. R. Royalty Co. No. 2-D Walton, 3,015-70 feet, 316 bbls. per day. Humble Oil & Refining Co. No. 18-C Walton, 3,032-65 feet, 875 bbls. per day.

In the Kermit field, Humble Oil & Refining Co. No. 23-C Colby, 2,790-3,075 feet, 744 bbls. per day.

CENTRAL TEXAS COMPLETIONS

Fisher County

I. J. Allen No. 1 H. S. Newman, total depth 3,446 feet, dry and abandoned. Snowden & McSweeney No. 1 J. Morrow, lime 3,507-17 feet, 3,000 gallons, 742 bbls. in 24 hours. Sunray Oil Corp. No. 3 Robinson, lime 3,535-45 feet, not treated, 809 bbls. in eight hours.

Jones County

Guitar Trust Co. No. 10 fee, sandy lime 1,975-2,004 feet, 200 bbls. per day. Iron Mountain Oil Co. and Humble Oil & Refining Co. No. 2 Jones & Stasney, lime 3,227-44 feet, 1,500 bbls. in five hours. Medders & Heydrick No. 1 Ann Shaheen, 1,963 feet, dry and abandoned. R. B. Trippett No. 12 Guitar, sandy lime 1,995-2,015 feet, initial production 119 bbls. in 24 hours.

Shackelford County

Canyon Oil & Gas Co. No. 1 S. E. Underwood, 781 feet, dry and abandoned. J. L. Hart No. 1 F. Clausell, sandy lime 745-60 feet, shot 10 quarts, 5 bbls. per day.

NORTH TEXAS COMPLETIONS

Archer County

Bridwell Oil Co. No. 1 Wilson C, total depth 1,628 feet, dry. Duncan & Marchman No. 12 N. I. Andrews, 990 feet, dry. Golding & Cochran No. 5 J. M. Kunkel, 1,131-51 feet, 80 bbls. S. H. Huggins and others No. 1 J. J. Perkins C, 1,792 feet, dry. W. T. Hutcheson No. 1 L. F. Wilson E, 1,565 feet, dry. Rathke Oil Co. No. 2 W. O. Haytor C, 1,429 feet, dry. Westmount Oil Co. No. 1-A T. J. Dempsey, 1,825 feet, dry.

Clay County

Bridwell Oil Co. No. 1 Edrington A, 1,087-1,110 feet, 20 bbls.

Cooke County

Fain & McGaha Oil Corp. No. 4 J. W. Mount, 1,770 feet, dry. Kingery Brothers No. 5 F. J. Trubenbach, 919-25 feet, 10 bbls. Trumter Oil Co. No. 15 G. T. Andress, 787-810 feet, 80 bbls.; No. 1 Will Sicking, 1,115 feet, dry.

Jack County

Big Six Oil Co. No. 1 Fields, 3,500 feet, dry. Brazos River Gas Co. No. 5 Mrs. P. B. Keyser, 3,112 feet, dry. Bryson Oil & Gas Co. No. 1-A Jones, 3,320 feet, dry. Hammon & Herbert Oil Co. No. 12 F. H. Rhodes, 2,953-95 feet, 550 bbls. Hanlon & Buchanan, Inc. No. 1 Mrs. E. W. Rankin, 2,710-16 feet, 50 bbls.

Wichita County

Lebus and others No. 1 J. F. Miller, 3,610-3,860 feet, 375 bbls. Mogren & Anderson No. 3 K. T. Goetze, 1,508-29 feet, 160 bbls. Patterson & Kemp No. 1 B. C. Ellis, 1,652 feet, dry. Petroleum Production Co. No. 81 First National Co., 3,669-3,855 feet, 625 bbls. Reed Glass & Crenshaw No. 12 First National Co. B, 3,651-3,846 feet, 600 bbls. Ryan Petroleum Corp. No. 126 G. L. Nance, 484-500 feet, 10 bbls.

Young County

S. D. Glover No. 2 H. W. Hennig, 1,081-90 feet, 10 bbls. Howard Petroleum Corp. No. 12 G. P. Stewart, 680 feet, dry. King Oil Co. No. 2 Perkins, 746-48 feet, 5 bbls. Texas Co. No. 12 Finch A, 850 feet, dry. West & Honea No. 12 G. P. Stewart, 926 feet, dry. Wootten & Wilson No. 7 S. L. Scott, 232-38 feet, 1,500,000 feet gas. H. D. Compton Oil Co. No. 1 Whiteley, 550 feet, dry. W. J. Rhodes No. 6 A. Burkett, 2,737 feet, dry.

New York-Pennsylvania Fields

(Continued from Page 94)

2,875 feet on the Chester L. Bonham farm, and at 2,280 feet on the Charles Finch farm; Belmont Quadrangle Drilling Co., drilling at 170 feet on the John Allen farm; Sylvania Corp., drilling at 1,035 feet on the John Allen farm, and at 1,910 feet on the E. G. Husted farm; Chancy and others, drilling at 734 feet on the M. Hargraves farm.

New York State Natural Gas Co. is drilling at 4,635 feet on the A. Schaul farm, one of its Troupsburg Township, Steuben County tests, and at 640 feet on the Franklin Miller farm. The Schaul farm test found the Tully lime at 4,282 feet.

Southwestern Development Co. is drilling at 6,062 feet on the Federal Land Bank farm, Montour Township, Schuyler County, and at 720 feet on the Johnson Estate farm, Willing Township, Allegany County. Another test will be under way in Allegany County when Empire Producing Co. begins drilling on the Della Mulvey farm, Alma Township, where it now has the rig up.

ANNOUNCEMENT

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THE OIL AND GAS JOURNAL

Tulsa **Oklahoma**

PERSONAL

STARR THAYER, for the past seven years corrosion engineer for the United Gas Public Service Corporation and its subsidiaries in Houston, Tex., has resigned to engage in consulting engineering. He will continue to handle corrosion problems for those companies. Mr. Thayer is widely known for his research in electrolysis.

MINOR S. JAMIESON, JR., research and statisticial expert in the economic division of the Federal Trade Commission, Washington, D. C., has been engaged by the Independent Petroleum Association of America. Mr. Jamieson will work in the Washington office of the association under the direction of RUSSELL B. BROWN, general counsel. It is expected his services will be of special value in the association's fight to have the 27½ per cent depletion allowance retained and in the effort to make congressmen and other officials see what a load of taxes is borne by the oil industry.

MISS EDITH QUIRK, who recently completed 15 years of service with the Mid-Continent Oil and Gas Association, started with the organization as a stenographer for the late Harry H. Smith, then secretary. Miss Quirk now is office manager of the headquarters office in Tulsa. It is through her supervision that the members of the association receive bulletins and other mailing pieces.

DR. EUGENE A. STEPHENSON, head of the department of petroleum engineering of the University of Kansas, will talk on "Problems of the Petroleum Industry" before the Mid-Continent section of the American Institute of Mining and Metallurgical Engineers at a meeting in Wichita, Kans., Saturday evening of this week. The arrangements are in charge of E. G. DAHLGREN, director of the conservation division of the Kansas Corporation Commission, and C. H. KEPLINGER, Shell Petroleum Corporation, chairman of the section.

W. H. MILLER, secretary to FRED B. KOONTZ, vice president of the Mid-Continent Petroleum Corporation, has been granted a six months leave of absence to develop a group of national and international sports in which he is interested. Mr. Miller, affectionately known as "Little Bill" by his associates in the Mid-Continent's Tulsa office, has been with the company and its predecessor, Cosden & Company, since 1917.

HAROLD MEENAN and JO-JO LORDI, both of the Meenan Oil Company, large retail fuel oil organization in New York, are planning to have the company represented by a powerful basketball team this winter. Mr. Meenan was formerly a Georgetown University cage star and his brother is coach of the Columbia University five. Mr. Lordi is a former Notre Dame athlete. Other members of the Meenan team are ARTHUR W. SMITH, treasurer of the company and son of ALFRED E. SMITH, former governor of New York; BILL HESS, who used to play on the Villanova team, and CHARLES BUTTON, JR., New York Athletic Club ace. Practice is under way.

R. A. KING, president of the King Oil Company, Wichita Falls, Tex., entertained the directors at the Wichita Falls Country Club following a tour of inspection of the company's properties in the Pampa, Borger and other Texas Panhandle areas.

ALEX F. SMITH, Shreveport, La., attorney, has joined the legal department of the Gulf Refining Company in the Shreveport division. Well known in North Louisiana legal circles, he is also president of the community fund this year in the Shreveport area.

DUDLEY M. STEELE, former manager of the aviation department of the Richfield Oil Corporation and head of the aviation department of the Los Angeles Chamber of Commerce, has been appointed director of the Union Air Terminal in Burbank, Calif.

F. T. MANLEY, vice president in charge of refining of the Texas Corporation, was honor guest at an informal dinner in the Biltmore Hotel, New York, last Friday, given by associates in commemoration of his thirty-fifth year of service in the company. W. S. S. RODGERS, president, and CAPT. T. REIBER, chairman of the board, were among those who gave short talks.

CHESTER W. WASHBURNE, geologist, has returned to New York from Venezuela and will look after the consulting practice of FREDERICK G. CLAPP. Mr. Clapp has left for a prolonged stay in Iran and Afghanistan, where he is in charge of geological work for the Inland Exploration Company and the Amiranian Oil Company, both subsidiaries of the Seaboard Oil Company of Delaware.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Thomas Gailey, superintendent of the Braden Drilling Company, dies at Leonard, Okla.

The Texas Company will extend its pipe line system from the Glenn Pool to the new Cushing field in Oklahoma, 30 miles distant. It will be a 6-inch line.

Bruce H. Matson, 27, of Bradford, Pa., oil man and son of Myron Matson, founder of the Matson Oil Company, dies in Buffalo, N. Y.

Col. John A. Taylor, agent for the Eureka Pipe Line Company in Pittsburgh, Pa., is burned to death in a fire that destroyed the apartment house in which he lived. He had been connected with the Standard Oil Company for 35 years.

20 YEARS AGO

Judge Harry Alvin Hall, of Ridgway, Pa., oil man, banker and lumberman, dies in Philadelphia after a long illness.

In less than eight years deposits in one of Tulsa's banks have grown from $404,674 to $18,516,410.

J. V. Nevin, manufacturing chemist of St. Louis, Mo., says he has discovered a chemical which, added to 128 parts water, has all the qualities of gasoline. He says it can be prepared at a cost of 5 cents per gallon.

10 YEARS AGO

About 1,400 miles of trunk pipe lines have been laid to West Texas fields in 1927 and an equal mileage will be laid in 1928, it is thought.

Federal Trade Commission finds no evidence of agreements or price manipulation in the gasoline trade.

Twenty representative petroleum stocks listed on the New York Stock Exchange averaged 62.07 in the week ending December 12.

GEORGE D. LOCKE, formerly vice president of the Barnsdall Oil Company, but now conducting oil operations from his own office in New York, is spending a few weeks in Los Angeles.

DON TILLEY, pipe line foreman for the Mene Grande Oil Company, was to leave New York this week on his return to Maracaibo, Venezuela, following three months' vacation in the United States.

DR. IONEL I. GARDESCU, at one time in the petroleum engineering department at Texas A. & M. College, is now in Venezuela to study the asphalt area around Goanoco. He was accompanied by JAMES C. McINTYRE and LEO PETRIE.

N. C. SUMPTER has resigned as plant superintendent of McClanahan Refineries, Inc., St. Louis, Mich., to become plant manager and superintendent for the Frontier Fuel Oil Corporation, Buffalo, N. Y. The Frontier refinery is on Niagara River Road, Tonawanda, N. Y.

L. G. STANLEY, for several years in the right of way and claims department of the Standard Oil Company of Indiana, has become associated with E. L. MYES, producer and operator, and the two have opened an office in Tulsa. The partnership will be devoted largely to lease operations.

A. J. MARTINSON was appointed director last Friday of the California Petroleum Safety Board, which has started a campaign to reduce accidents in the oil industry of that state. The recently formed accident-prevention group is headed by FRANK A. TRAVERS, of the South Basin Oil Company, as president.

PARAGRAPHS

H. W. MARCUM, president of the Patsy Oil Company, suffered burns last Saturday when he rescued HOMER DOLLAR, an employe, from a blazing doghouse in the Fitts oil field, Oklahoma. The two were in the small building when a fire, started accidentally, suddenly enveloped it. Mr. Dollar, his clothing aflame, was picked up bodily by his companion and carried outside. He was taken to a hospital in Ada. Mr. Marcum's injuries are not serious.

NELSON ALDRICH ROCKEFELLER, son of JOHN D. ROCKEFELLER, JR., contracted influenza, complicated with bronchitis, after arriving recently in Kleberg County, Texas, to hunt deer on the Armstrong ranch. He and his brother, WINTHROP ROCKEFELLER, were guests of CHARLES and TOM ARMSTRONG. The patient was taken to the hospital in Kingsville, and DR. C. M. McLEOD, of Rockefeller Center, New York, went by plane to attend him. The young man's condition was not critical, it was said at the hospital, and plane reservations were made for his return to New York, where he was expected to arrive early this week.

E. G. ROBINSON, recently transferred from the Shell Oil Company's Los Angeles office, is in charge of the company's Illinois and Indiana geological work.

W. L. WEBB, formerly of Colorado Springs, Colo., has assumed his new position as superintendent for the Continental Oil Company in Greybull, Wyo., succeeding CLARENCE HUGHES.

FREDERICK A. BUSH, chief geologist of the Sinclair Prairie Oil Company and president of the Tulsa Geological Society, is recovering from an appendectomy performed in a Tulsa hospital November 28.

ARNOLD C. DAHL, formerly division exploitation engineer for the Shell Petroleum Corporation at Pampa, Tex., has been transferred temporarily to Centralia, Ill., where the Shell is engaged in wildcat drilling.

W. F. BUAAS, president of the Taft Well Drilling Company, is believed to have set a mileage record in order to attend a football game. From his California office he flew in his own plane to Washington, D. C., to attend the Army-Navy game. He has a son attending the Annapolis Naval Academy who will graduate next spring.

W. S. FARISH, president of the Standard Oil Company (New Jersey), received the Order of Commander of the Legion of Honor in New York last Saturday. The honor was conferred by PRESIDENT LE BRUN, of France, in recognition of Mr. Farish's work as a member of the National Petroleum War Service Committee. CHARLES DE FONTNOUVELLE, French consul-general in New York, presented the diploma commemorating the award.

F. JACKUBACK, in the service of the Socony-Vacuum Oil Company in Colombia, South America, is spending a month in the United States.

M. F. BRIDGES, purchaser for the Tide Water Associated Oil Company in Tulsa, has been nominated for president of the Purchasing Agents Association of Tulsa. H. P. HELLINGHAUSEN, Oklahoma Pipe Line Company, was named for first vice president; T. C. HELLER, Sun Oil Company, second vice president, and C. D. TAYLOR, Barnsdall Oil Company, secretary treasurer. H. M. COSGROVE was renamed executive secretary and E. R. WELCH assistant. Nomination is said to be tantamount to election on the night of December 14. C. M. TAYLOR, Indian Territory Illuminating Oil Company, Bartlesville, Okla., whom Mr. Bridges succeeds, automatically becomes national director from the association to the National Association of Purchasing Agents.

R. P. ROAPER, safety director for the Humble Oil & Refining Company, and CECIL HIGHTOWER, safety director for the United Gas Public Service Corporation, both of Houston, Tex., have been elected president and vice president respectively of the Texas Safety Executives Association, a newly formed organization of industrial safety engineers.

RICHARD ARCHBOLD, heir to a Standard Oil fortune, took off last Friday in a giant airboat for a transcontinental flight from San Diego, Calif., to Miami, Fla. It was his second trip across the continent in a plane capable of landing on large bodies of water only, carrying a crew of seven in addition to Mr. Archbold and loaded with 1,750 gallons of gasoline. The cruise was designed as a "shakedown," preliminary to a planned flight from San Diego to Borneo early in 1938 for the Museum of Natural History in New York.

Wildcat Fascinated Him

Frank Gravis watched with fascination the drilling of a wildcat well near his father's ranch in Duval County, Texas, when he was 16. (And that wasn't so long ago either.) He has been interested in oil ever since, and today he is one of the most successful independent operators in Duval County. Soon after he saw that first wildcat brought in young Gravis started working as a roustabout in the oil fields of Texas, Oklahoma and Kansas. He became a toolpusher, then a driller. Eventually he bought a string of tools and began operations on his own account.

FRANK GRAVIS

Mr. Gravis has had wide drilling experience, but his operations have been concentrated mainly in Duval County. He has production in the Loma Novia and Government Wells fields. Engaging his chief interest for years has been the Palangana salt dome of southeastern Duval County. His faith in it was rewarded last summer, when his No. 1-A Scharlett came in making 50 barrels an hour of 46-gravity crude. The Penn Palangana Oil Company was formed to develop the new area. Last April his No. 1 Vaello Puig, about 4½ miles northeast of the new Sweden field, opened by the Hiawatha Oil Company, proved to be the discovery well of the North Sweden field. Operators who held nearby acreage moved in rigs, and active leasing began. So, with two discoveries already to his credit and with oil properties to develop around these strikes, Frank Gravis seems to be on his way.

FRANK McKAY, vice president of the Superior Oil Corporation, Tulsa, accompanied by MRS. McKAY, is spending a vacation in Monterrey, Mexico.

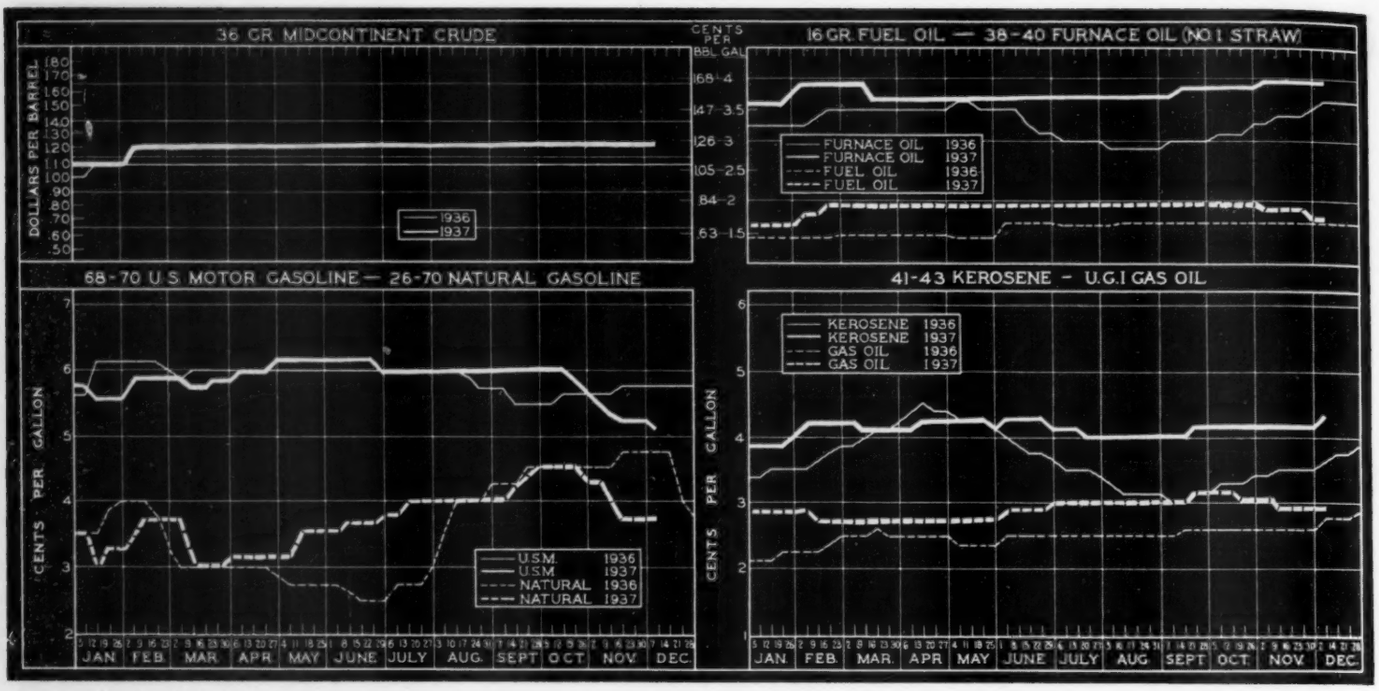
H. L. HUNT, producer and pipe line operator in the East Texas field, is planning to transfer his company headquarters in Tyler to Dallas in the near future.

JOHN F. MITCHELL, district superintendent for the Magnolia Petroleum Company in the Cotton Valley field of North Louisiana, left for a vacation trip on the Gulf Coast.

H. K. BEARDMORE, of Wichita, Kans., has been appointed temporary trustee for the Allison-Fitzwilliam Petroleum Corporation, which filed a petition in federal court to reorganize.

ASA E. RAMSEY, secretary of the Chamber of Commerce in Jefferson, Tex., heads a group of local men petitioning the Texas Railroad Commission to give a separate field designation to the Jefferson oil area, now included with Rodessa in regulatory measures.

FRANK MORGAN, head of the Richfield Oil Corporation's department of exploration, was elected chairman of the wildcat committee of the California Oil and Gas Association last Friday. J. R. PEMBERTON, oil umpire, was elected vice chairman and N. C. NEEDHAM, manager of General Petroleum Corporation's department of land and leasing, treasurer. D. S. KILGOUR, manager of the association, retains his post as secretary. The group discussed plans for the annual "Christmas Jinks" to be given by the wildcat committee December 17. DANA HOGAN is the retiring chairman of the committee.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Motor Fuel Prices Slip to New Lows in Group 3; Heating Oils Vigorous

By T. F. SMILEY

Gasoline prices in the Group 3 area lost their hold—it was a precarious one anyway—and slid to new lows this week. Various conditions contributed to the recession, and the trade is familiar with all of them. As refiners estimated they already were losing 17 to 25 cents on every barrel of crude processed, their position now is not calculated to make them break into Christmas carols. Unhappy alternatives confront many of them. If they shut down they may not be able to regain their crude supplies when these are wanted. If they don't shut down they must dip more deeply into the red ink. Indications this week were that most of those who wish they might close their plants will limp along on as low a scale of operations as possible, hoping the turn of the year will bring the desperately needed upturn. Some of the large refiners are making no third-grade material at all, since at the prevailing level of prices they can buy it for much less than it would cost to make it in their own plants.

Heating Oils Tight

Gloom over gasoline was so deep that the towering strength of the burning oils did not receive the attention it desired. The cold wave which visited wide areas this week started a stream of shipping instructions on furnace distillates contracted for and quickened spot buying. Quotations on some grades hopped up a notch and in other cases they were poised for a spring. Although No. 1 prime white and No. 1 straw continued to lead the group in point of urgent requirement, the whole list was vigorous.

No. 3 low cold test, though not the object of heaviest demand, was said to be the hardest to get, for the reason that many refineries do not make it. Quotations were higher. Some of the larger jobbers, though they have an extensive business in No. 2 furnace oil, buy none of it. Instead they buy and store No. 1 and No. 3 and then blend these two to make No. 2 as they need it. In that way they avoid tying up a storage tank with No. 2. Early buying and storing of No. 3 for blending is said to be an important element in the current scarcity of that material.

Kerosene, benefiting from the activity of the furnace oils, displayed fresh buoyancy. Brokers who had been able to pick up small lots of 41-43 at 3⅞ cents for resale found these opportunities gone. One such buyer, after being quoted 4 cents by a refiner late last week, wired, "Ship carload 3⅞." He received the laconic reply, "No sale." The refiner got the order at 4 cents. This week another eighth was added to the resale price, and 4¼ cents was reported to be virtually the uniform spot quotation to jobbers.

In the heavier-gravity fuels the No. 4 low cold test was noticeably stronger. This grade is used largely for heating office buildings, hotels and apartment houses. Although low-grade industrial fuel continued to feel the depressing effects of curtailed factory and mill operations, substantial railroad buying was reported. Heavy grain and cotton movement has contributed to this demand.

Buying Helps Naturals

Natural gasoline, which had begun to droop a little, revived under the influence of large-scale buying. Some 25,000 to 30,000 bbls. of 26-70 was purchased for export shipment, bringing relief to small manufacturers whose stocks were beginning to assume the character of distress material. This export business was said to have cleaned up top-heavy accumulations so well that the spot market was assured of a healthy tone for a few days anyway. Whether the naturals would follow the refined product down was a matter of conjecture.

Export business was helping to keep the movement of lubricants to a fairly satisfactory level. The domestic market was dull, and there were reports of underselling. Wax was less active than last week, but the price was holding.

Refined Oil Market Barometer

More drastic curtailment of runs to stills needed to bring gasoline stocks into balance with long-range requirements and to establish a healthy market. Many refineries in the Mid-Continent region operating at a loss. Heating oils entering season of peak demand and prices stiffening. Domestic lubricant market lacks strength, but exports are in fair volume.

MID-CONTINENT. Gasoline weaker. Heating oils and kerosene strong. Lubricants dull.

EAST COAST. Kerosene active. Furnace oils strong. Gasoline seasonally slow.

GULF COAST. Gasoline weak. Burning oils strong. Prices steady.

CALIFORNIA. Volume lower, but prices holding. Export market firm.

PENNSYLVANIA. Gasoline heavy. Burning oils active. Lubricants dull.

CHICAGO. Gasoline off. Burning oils vigorous, with prices tightening.

Gasoline and Lubricating Oil Market Continues Weak on East Coast

By H. STANLEY NORMAN

NEW YORK, Dec. 7. — The almost unbroken chain of stepdowns in the Pennsylvania lubricating oil market and more recent recessions in gasoline prices finally brought about another slash last week in Pennsylvania crude quotations ranging from 15 to 18 cents per barrel. Gradual sinking of the bright stock market and the more recent reductions on neutrals were market factors most responsible for the crude cut last week, but the continued high crude production in the face of slackening gasoline demand contributed materially.

Despite the long series of reductions in bright stocks, which apparently have reached bottom, it really required a cut in gasoline and neutrals to depress the crude postings. For products other than lubricating stock in western Pennsylvania, the demand has shown no changes other than seasonal adjustments. Although Pennsylvania gasoline prices suffered in the almost nation-wide adjustments two or three weeks ago, this in itself probably would not have resulted in a crude price cut, but for failure of the lubricating oil market to rally or show any signs of resistance. Neutral oils sold off last week from 1 to 2 cents per gallon and the cylinder oil market was almost exclusively confined to inter-refinery trading. Bright stocks held firm at the preceding week's prices, but they in turn had leveled off after a protracted period of gradual decline earlier in the winter and late fall.

Still exerting influence on the western Pennsylvania gasoline market is the competition from Ohio refiners who are attempting to offset seasonal slumps in demand by a more vigorous program in the overlapping territory between the two refining districts. However, Pennsylvania refiners made their gasoline price adjustments earlier in November and this was more of a contributory cause behind the crude price adjustment than one of sole responsibility. Tankcar prices were reported holding fairly firm at the preceding week's level which had already included adjustments in line with competitive supplies from Ohio. Some of the bearish attitude toward the Mid-Continent crude market prevailing in eastern oil circles during the first half of November had disappeared last week when first results from the East Texas Sunday shutdown order had been reviewed. Others, however, were still unwilling to concede that the problem had been satisfactorily solved. The feeling toward the oil markets by easterners unquestionably shows effect of the general business attitude in that several potential buyers are delaying orders as long as possible to await developments of the next two or three weeks.

Then, too, the acute winter demand for fuel oil has not yet developed. All last week temperatures were comparatively mild with exception of the last two days, when a cold snap sent the mercury down and oil delivery instructions up. Temperatures are such that heating is required, but the heavy winter consumption expected normally in January and February still leaves a little leeway in the matter of purchasing supplies for that period. The tank-wagon fuel oil market is showing more uniformity. The tankcar and barge prices are unchanged from early winter quotations.

There is no weakness in the fuel oil market, in fact it is strong, but the real snap which will develop with temperatures consistently below freezing leaves something to be desired at present in turnover. Kerosene is one of the most active products in the North Atlantic petroleum market at the present time. Volume from the Gulf Coast, Atlantic Coast and inland Pennsylvania refineries is satisfactory and prices are holding firm at 6.3 cents per gallon, tankcar, in New York harbor area. Kerosene is available in barges at 6⅛ cents per gallon, unchanged from previous recent quotations.

Movement from the Gulf Coast north is probably best reflected in the clean boat charter market. Owners are now reported asking 30 to 31 cents per barrel for charter trips from the Gulf Coast to north of Cape Hatteras. One boat was reported chartered last week for December loading of No. 2 fuel oil on the Gulf Coast at 27 cents per barrel. There were several charters reported in October and early November at 25 cents per barrel for light fuel oil movement. Ship brokers report that only a few boats are currently available for charter. Most of the tonnage is now engaged transferring kerosene and light fuel oil from Gulf Coast refining centers north to Atlantic Coast storage in preparation for the January and February business. This condition applies mostly to major refiners and to the large dealers who have contracted for supplies well in advance of the season.

No new business developed in the Gulf Coast export market last week, so far as could be learned. There was one open market cargo sale of 65-octane gasoline for coastwise movement at 5⅞ cents per gallon. Several export inquiries were still hanging over the market for 64-66 375 endpoint gasoline, but up to the end of the week no business had developed. A majority of suppliers are quoting 5⅝ cents per gallon in response to the export inquiries. There is still a large volume of gas oil moving from the Gulf Coast to European points, but a good portion of the volume is on a contract basis and gives no indication of the spot conditions. Since the supply in the hands of Gulf Coast plants is apparently limited, however, it is evident that foreign contract customers are ordering out supplies at a steady rate. Thirty plus translucent and transparent gas oils are currently quoted at 4½ to 4⅝ cents per gallon.

The continued heavy demand for Bunker C fuel oil from the shipping industry and improved business with shore plant consumers has firmed the tone of this market to some extent during the past 10 days. No change in the previous quotation of $1.25 per barrel established in November for New York and Philadelphia delivery has been reported. The low ebb of steel plant operations, curtailment of railroad freight loadings and the reduced activity in other industrial work indicated thereby have produced no further reductions in the heavy fuel market since those in November. Steamship lines report a more substantial volume of business this season than during comparable months last year, particularly in the field of passenger travel.

There was no change of consequence in the eastern gasoline market last week. Tankcar prices appeared reasonably firmly established at levels reached during the preceding three weeks and only scattered changes were reported. Socony-Vacuum Oil Co., Inc., reduced tank-wagon gasoline prices a half cent per gallon in Syracuse, lowering the undivided dealer quotation to 9 cents, exclusive of taxes.

In the metropolitan area of New York, the gasoline market was fea-

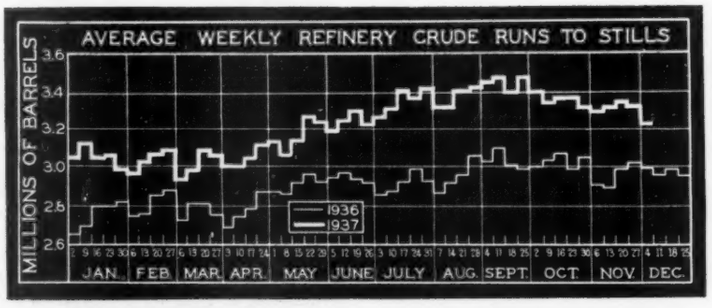
(Continued on Page 126)

A. P. I. Weekly Refinery Statistics

Week Ending December 4, 1937

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	576,000	18,314,000	14,526,000
Appalachian	88.4	90,000	2,782,000	1,064,000
Indiana, Illinois, Kentucky	92.4	421,000	10,362,000	7,341,000
Okahoma, Kansas, Missouri	84.7	267,000	6,558,000	3,822,000
Inland Texas	56.6	106,000	2,117,000	1,834,000
Texas Gulf	95.7	693,000	9,877,000	11,781,000
Louisiana Gulf	96.6	145,000	1,732,000	3,436,000
North Louisiana and Arkansas	63.7	45,000	426,000	539,000
Rocky Mountains	69.7	48,000	1,523,000	650,000
California	90.9	509,000	12,682,000	73,176,000
Total reported	89.0	2,900,000	66,373,000	118,169,000
Estimated unreported	.....	330,000	3,820,000	3,150,000
*Estimated total	.....	3,230,000	70,193,000	121,319,000
*Estimated total previous week	.....	3,325,000	68,544,000	121,616,000
*December 5, 1936	.....	2,990,000	57,696,000	110,287,000

*Bureau of Mines, currently estimated.



Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending November 20, 1937	304,324,000 barrels
Week ending November 13, 1937	305,608,000 barrels
Week ending November 21, 1936	288,428,000 barrels

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of December 7, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag.
Chicago, Ill.	15.3	13 3	4 0	10 2
Decatur	15 3	13 8	4.0	10 2
Joliet	15 3	13 8	4 0	10 2
Peoria	15.3	13 8	4 0	10 2
Quincy	15.1	13.6	4 0	10 0
Davenport, Ia.	15.3	13 8	4 0	‡13 2
Des Moines	15.1	13 6	4 0	‡13 0
Mason City	15 4	13 9	4 0	‡13.3
Sioux City	15 3	13 8	4 0	‡13 2
Duluth, Minn.	17 0	15 5	5 0	10.9
Mankato	16.7	15 2	5 0	10 6
Minneapolis	16 7	15 2	5 0	10.6
Lacrosse, Wis	16 7	15 2	5 0	10 6
Green Bay	17 0	15 5	5 0	10 9
Milwaukee	16.5	15 0	5 0	10.4
Detroit, Mich.	15.1	13 6	4 0	9.8
Grand Rapids	16 3	14 8	4 0	11.0
Saginaw	16 1	14 6	4 0	8 6
Evansville, Ind.	16 8	15 3	5 0	†10 7
Indianapolis	16 9	15 4	5.0	†10.8
South Bend	17 2	15 7	5 0	†9.7
Fargo, N. Dak.	16 7	15 2	4 0	11 6
Minot	17 9	16 4	4 0	12 8
Huron, S. Dak.	17 1	15 6	5 0	11.0
Kans. City, Mo.*	14 6	13 1	4 0	8 0
St. Louis*	14 9	13 4	4 0	9 8
St. Joseph	14 6	12 4	4 0	8 5
Wichita, Kans.	14.1	12 4	4 0	8.0

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Iowa kerosene prices include 3-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
Atl'tic City, N. J.	12.75	11.25	4.0	9.0
Newark	12.75	11.25	4.0	9.0
Annapolis, Md.	14 85	13 35	5 0	9 5
Baltimore	14.25	12.75	5 0	9.0
Cumberland	16.65	14.15	5 0	10.0
Wash'g'n, D. C.	12.5	11.0	3.0	9.5
Danville, Va.	17 45	14.95	6.0	12.9
Norfolk	16.25	13.75	6.0	11.5
Petersburg	16.55	14.05	6.0	11.7
Richmond	16.55	14.05	6.0	11.7
Roanoke	17.75	15.25	6.0	12.9
Charles'n, W. V.	17.05	14 55	6.0	12.6
Parkersburg	16.35	13.85	6.0	11.2
Wheeling	17 0	14 85	6 0	12 2
Charlotte, N. C.	18 65	16.15	7.0	12.6
Hickory	19.15	16.65	7.0	13.0
Mt. Airy	18.95	16.45	7.0	12 8
Raleigh	18.25	15.75	7.0	12.1
Salisbury	18.75	16 25	7.0	12.7
Charleston, S. C.	17.25	14.75	7.0	11.1
Columbia	18 25	15.75	7.0	12.1
Spartanburg	18.95	16.45	7.0	12.9

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5-cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero tank wag.
Atlanta, Ga.	21.0	18 0	7.0	*†12.0
Augusta	21.0	18 0	7 0	*14.0
Macon	21.5	18 5	7 0	*14 5
Savannah	19 0	16 0	7.0	*12 0
Birm'ham, Ala.	22.0	19.0	8.0	12.0
Mobile	22 0	19 0	9 0	11 0
Montgomery	22 0	19 0	9 0	14 5
Jackson, Miss.	20 0	17 0	7 0	*13 0
Vicksburg	20.0	17.0	7.0	*13 0
Jacksonville, Fla.	20 0	17.0	8 0	†10 0
Miami	20 5	17 5	8 0	†12 5
Pensacola	22 0	19 0	9 0	12 0
Tampa	19 0	16 0	8 0	10.5
Lexington, Ky.	19.5	16.5	6.0	11.0
Covington	19.0	16.0	6.0	11.0
Louisville	19.0	16.0	6.0	10.5
Paducah	19.5	16.5	6.0	10.0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1-cent state tax. †Subject to 2-cent discount.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo.	16.5	5.0	11.5
Grand Junction	19.0	5.0	15.0
Pueblo	16 0	5 0	10 5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	16 0	5 0	13 0
Butte, Mont.	19 0	6.0	15.5
Billings	19.5	6.0	15.5
Helena	19.5	6.0	15.5
Great Falls	19.5	6.0	15.5
Salt Lake City, Utah	19.5	5.0	16.0
Twin Falls, Ida.	21 0	6 0	18 0
Boise	21 5	6 0	18 0
Albuquerque, N. M.	17.5	*6 5	12 0

*Includes city tax of one-half cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank wag.
Ohio points	16 5	15 5	5 0	*13 5

*Includes state tax of 1 cent.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
Albany, N. Y.	14 5	13 0	5 0	9 0
*Met. N. Y.:				
Manh't'n, Br'nx	14.5	13 0	5 0	9 0
Staten Island	14 5	13 0	5 0	9 0
Q'ns. & Brklyn	14 5	13 0	5 0	9 0
Buffalo	15 05	13.54	5.0	8 5
Rochester	15 0	13 67	5 0	8 5
Syracuse	15 0	13 62	5 0	9 5
Boston, Mass.	11 75	13 0	4 0	8 5
Portland, Me.	14 8	13 0	5 0	8 75
Manch'ter, N. H.	15 8	13 5	5 0	9 5
Burlington, Vt.	15 4	13 4	5 0	9 5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	17 5	18 5	4 0	11 5
Los Angeles	17.0	18 0	4 0	9.0
Fresno, Calif.	18 5	19 5	4.0	12.0
Phoenix, Ariz.	21 0	22 0	6 0	‡16.0
Reno, Nev.	20 0	21.0	5 0	13.0
Portland, Ore.	20 0	21.0	6 0	13.5
Seattle, Wash.	20 0	21 0	6 0	13.5
Spokane	23 0	24 0	6 0	16 5
Tacoma	20.0	21.0	6 0	13.5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag.
Omaha	17 7	16 2	6 0	10.5
McCook	18 1	14.1	6.0	10.1
Norfolk	18.1	16 6	6.0	10.9
North Platte	18.5	17 0	6 0	11.3
Scotts Bluff	19.2	16.0	6.0	12.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
N. Orleans, La.	19.75	17 25	*10 0	†11 0
Baton Rouge	17.75	15.25	8.0	12.0
Alexandria	18.25	15.75	8.0	12.0
Lafayette	18.75	16.25	8.0	13.0
Lake Charles	18.75	16.25	8.0	12 5
Shreveport	17.25	14.75	8.0	9.5
Kn'xv'lle, Tenn.	20.75	18.25	8.0	14.0
Memphis	18.75	16.25	8.0	12.0
Chattanooga	20.25	17.75	8 0	13 5
Nashville	19.75	17.25	8.0	11.5
Bristol	19.50	18.25	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Louisiana kerosene prices include 1 cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	13 75	12 25	5 0	10 5
Pittsburgh	15 0	13 0	5 0	11 0
Allentown	14 25	12 75	5 0	11 0
Erie	14 5	13 0	5.0	10 0
Scranton	14 5	13 0	5 0	11 0
Altoona	15 0	13 0	5 0	11 0
Dover, Del.	14 5	....	5 0	11 0
Wilmington	14 0	....	5 0	11 0
Spring'd, Mass.	13 3	....	4 0	8 5
Worcester	14 3	....	4 0	9 0
Hartford, Conn.	13 6	....	4 0	9 0
New Haven	13 5	....	4 0	9 0
Providence, R. I.	13 5	....	4 0	8 5

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank wag.
Muskogee, Okla.	14.5	5.0	7.0
Oklahoma City	14 0	5 0	8.0
Tulsa	14.0	5.0	8.0
Ft. Smith, Ark.	14 75	5 0	8.0
Little Rock	17.25	7.5	9.5
Texarkana	14 5	5 0	8 5

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Dallas, Tex.	14.0	18.5	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	14 5	18.5	5 0	8 0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero tank wag.
Halifax, N.S.	24 0	8 0	18.5
St. John, N.B.	24 0	8 0	18.5
Montreal, Que.	21.0	6.0	17.5
Toronto, Ont.	22.0	6 0	17.0
Hamilton, Ont.	22 0	6 0	17.0
Winnipeg, Man.	27 5	7 0	20.7
Brandon, Man.	29 8	7 0	22.3
Regina, Sask.	28 5	7 0	22.0
Saskatoon, Sask.	31 3	7 0	24.8
Edmonton, Alta.	28 0	7 0	23 0
Calgary, Alta.	25 5	7 0	20 5
Vancouver, B.C.	23 0	7 0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon price Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Retail Price Changes

Standard Oil Co. of Louisiana November 16 reduced tank-wagon kerosene 2 cents in New Orleans.

Standard Oil Co. (Indiana) December 6 advanced subnormal prices on kerosene, tractor fuel and Stanolex furnace oil .5 cent per gallon.

Scientific Exhibits

Dr. Gustav Egloff, chairman of the International Petroleum Exposition Scientific and Technical Committee, is at work on a project he plans to display at the May 14 to 21, 1938, oil show at Tulsa. The committee, under Dr. Egloff and Dr. C. K. Francis, technical editor of The Oil and Gas Journal, assistant chairman, has announced its intention of having the latest scientific developments in exploration, geological instruments, locating of wells, mapping aerial photography, production, refining, and all other divisions of the industry. Dr. Egloff is director of research for the Universal Oil Products Co., Chicago. The scientific exhibits will be housed in a new hall of science building which contains twice the space previously allocated to these exhibits.

Texas Wildcats

(Continued from Page 113)

C. B. Christie No. 1 S. Dozier, I. L. Hill Sur. A-126. 5½-in. 3,780 ft.; W.O.C.

Collier & Conner No. 1 H. M. Ford, W. T. Carter Sur. A-62. Drlg. 2,650 ft.

N. B. Crenshaw No. 1 J. C. Dwight, sec. 1,444, T.E.&L. Sur. Material on ground.

L. A. Long No. 1 F. A. Burnett, E. G. Rector Sur. No. A-239. R.U.C.T.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of December 7, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below (3d gr.)	.04	.04¼
63-66 octane	.04⅜	.04½
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05⅛	.05¼
60-62 400 grades:		
62 oct. and below (3d gr.)	.04	.04¼
63-66 octane	.04⅜	.04½
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05⅛	.05¼
64-66 375	.04⅝	.05
68-70 360	.05	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04	.04¼
63-66 octane	.04⅜	.04½
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05⅛	.05¼
60-62 400	.04	.04¼
64-66 375	.04⅝	.05

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)

U. S. Motor grades:		
62 octane and below	.04¾	.05
63-66 octane	.05	.05¼
67-69 octane	.05¼	.05½
70-72 octane (regular)	.05¾	.05⅞

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below	.04¾	.05⅛
63-66 octane	.05	.05¼
67-69 octane	.05⅜	.05⅝
70-72 octane (regular)	.05¾	.05⅞

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04⅛	.04⅜
63-66 octane	.04½	.04¾
67-69 octane	.04⅞	.05⅛
70-72 octane (regular)	.05⅛	.05⅜
60-62 400 grades:		
62 octane and below	.04⅛	.04⅜
63-66 octane	.04½	.04¾
67-69 octane	.04⅞	.05⅛
70-72 octane (regular)	.05⅛	.05⅜
64-66 375	.04¾	.05⅛
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.05	.05¼
60-64.9 octane	.07⅛	.07¼
65-70 octane	.07¼	.07½
64-66 390	.06⅛	.06¼
68-70 350	.06¼	.06⅜

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07½	.08½
58-60 400, 65 oct. and higher	.08¼	.09¼

EAST COAST (Domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)	.06¼	.06½
Baltimore	.06	.06¼
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)	.07¼	.07⅜
Philadelphia	.07¼	.07½
Boston	.07⅜	.08¼
Baltimore	.07¼	.07½
Charleston, S. C.	.07¼	.07⅜
U. S. Motor, 65 and above:		
*New York (Bayonne)	.07½	.08
Philadelphia	.07¼	.07⅜
Boston	.07⅜	.08¼
Baltimore	.07½	.08
Charleston, S. C.	.07⅜	.08¼

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05⅜	.05½
60-64.9		.05⅝
65 octane and higher		.05¾

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05	.05¼
52-54 450 (blending)	.05	.05¼
54-56 450 (blending)	.05¼	.05⅜

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03¾
Grade 18-55		.04½

NORTH TEXAS—

Grade 26-70		.03¾
Grade 18-55		.04½

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.04⅝	.04¾

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.		.04¼
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04½
46-48 gr., 210-230 i.b.p., 480 max., e.p.	.04¾	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43		.04¼
42-44	.04¼	.04½

NORTH TEXAS—

41-43		.04¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43		.04½

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.04½

PENNSYLVANIA (inland refineries)—

45	.05½	.05⅝
46	.05⅝	.05¾
47	.05¾	.05⅞

CHICAGO (Based on Group 3)—

41-43	.04	.04¼
42-44	.04¼	.04½

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.05¼	.06¼

NEW YORK (Bayonne, N. J.)—

41-43		.06 3/10

***GULF COAST (domestic)—**

41-43		.05¼

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.04	.04⅛
No. 1 straw, 38-40	.03⅞	.04
No. 2 straw, 32-36	.03¾	.03⅞
No. 2 dark, 32-36	.03½	.03¾
No. 3 zero to 15, 28-32	.03⅜	.03⅝
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.04	.04⅛
No. 1 straw, 38-40	.03¾	.04

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03½	.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03¾

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.04	.04⅛
No. 1 straw, 38-40	.03⅞	.04
No. 2 straw, 32-36	.03¾	.03⅞
No. 2 dark, 32-36	.03½	.03¾
No. 3, zero to 15, 28-32	.03⅜	.03⅝
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1		.06 3/10
*No. 2		.05½
*No. 4		.05¼

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.82½	.90
Below 18 fuel oil, industrial	.72½	.77½

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.10	1.15
No. 5, low cold test, 18-22	.82½	.87½
Below 18 fuel oil, industrial	.72½	.77½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

10-14 fuel oil, industrial	.80	.85

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.03	.03⅛
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.82½	.90
No. 5, 15 and above (18-22)	.80	.85
No. 6, low cold test, 10-16	.75	.82½

PENNSYLVANIA (inland refineries)—

36-40	.04¾	.05

CALIFORNIA

Los Angeles:		
30-34 gas oil, per bbl.	1.50	1.70
24 plus diesel, per bbl.	1.50	1.75
24 plus diesel (bunkers)	1.60	1.80
12-16 (bunkers at tidewater)	1.05	1.10
10-16 (cargo lots)	.90	1.10
12-17 (tankcars)	.95	1.10
10-17 (high sulfur)	.70	1.00
San Joaquin Valley:		
10-18 (tankcars)	.65	1.00
24 plus diesel, per bbl.	1.50	1.70
San Francisco:		
24 plus diesel, per bbl.	1.60	1.70
24 plus diesel (bunkers)	1.60	1.70
10-16 (bunkers)	1.10	1.15

GULF COAST—

28-30 gas oil	.04½	.04⅝
28-30 diesel (bunkers)		1.90
Bunkers (bulk cargoes)		.85
Bunker C (bunkers)		1.05

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.05	.05¼
28-30 diesel (lighterage 6¼c per bbl.)		2.20
28-30 diesel (tankcars)		.05¼
Bunker C (to ocean-going ships in N. Y. harbor)		1.25
Industrial fuel (tankcars)	.04½	.04¾

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16
150-160 E, 15-25		.15½
100-110 D, 0-10		.15½
Steam refined:		
631 green (treated)		.14½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):

10 pour test	.19	.19½
15 pour test	.18	.18½
20 pour test	.17	.17½
25 pour test	.16	.16½
Steam refined:		
600	.08	.09
650	.11½	.12½
600 Pennsylvania flash	.12	.13
630 flash	.16	.17
600 Warren E filtered	.13	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-3½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07⅝
500-3½	.08½	.08⅝
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale Oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F. color, 400-405 flash:		
Zero pour test	.19	.19½
10 pour test	.18	.18½
15 pour test	.17½	.18
25 pour test	.16½	.17½
180 vis. at 70° F., 3 color:		
25 pour test	.19	.19½
200 vis. at 70° F., 3 color:		
Zero pour test	.22	.22½
10 pour test	.21	.21½
15 pour test	.20½	.21
25 pour test	.18½	.19

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale		.03

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0295	.0300
124-126 (a.m.p.) w.c. scale	.0295	.0300

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0295	.0300
124-126 (a.m.p.) y.s.	.0265	.0280
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05⅜	.05½
60-62 400	.05⅜	.05½
61-63 390		.05⅝
64-66 375		.05¾

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.05¾	.06
65-69 octane		.06¼
Above 69 octane		.06½

KEROSENE

GULF COAST—

41-43 prime white		.05⅛
41-43 water white		.05¼
44 water white		.05⅜

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.21½	.22
600 S.R. unfiltered	.16½	.17
630 S.R. unfiltered	.21	.21⅛
600 flash, S.R.	.21½	.22
630 flash, S.R.	.25½	.26
Bright Stocks:		
8 color	.23½	.24
6½ plus color in dilution	.23	.23½

NEUTRAL OIL

200-3 color	.30	.30⅛
150-3 color	.25½	.26

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude Scale:		
124-126 w.s.	.0295	.0300
124-126 y.s.	.0265	.0280

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas (May 22, 1937)*	$1 35
Van, Tex.†	1 10
Camp Hill, Tex.	1 27
Cass County, Tex.‡	1.25
Talco	73
Altus and Tipton, Okla.§	1 20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.

Pecos County*	91
Pecos shallow†	81

*Shell Petroleum Corp., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1 18
Iles, Colo., heavy*	1 12
Greybull, Wyo.*	1 30
Torchlight, Wyo.*	1 30
Grass Creek, Wyo., light*†	1 30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	62
Hamilton Dome, Wyo. (Jan. 1, 1937)*	67
Elk Basin, Wyo., light*†	1 30
Frannie, Wyo., heavy*	62
Frannie, Wyo., light	70
Hogback, New Mex. (Jan. 1, 1937)*	1 21
Pondera, Mont. (Jan. 26, 1936)*	1 05
Salt Creek Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1 23
Rock Creek, Wyo.†	1 20½
Lea County, N. M. (see West Texas gravity table)	
Artesia, N. Mex. (Jan. 28, 1937)‡	.92
Maljamar, N. Mex. (Jan. 28, 1937)	.92
Canon City and Florence, Colo.	1 10
Lance Creek, Wyo.	.97
Sunburst, Mont. (Nov. 16, 1937)†	.90
Cat Creek, Mont. (Oct. 25, 1937) gr. scale $1.05 below 35°; $1.30 above 40°.	
Cut Bank, Mont. (Oct. 25, 1937), (posted by Northwest Refining Co.)	1.10
Garland, Wyo. (Jan. 1, 1937)†	.50

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Southwest Texas

(January 28, 1937)

Pettus	1.37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Luling	1.00
Lytton Springs	1.12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ 90
Tullos and Urania	1 02
El Dorado East field	90
Union County, Ark.	90
Ouachita County, Ark.	90

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1 00
Garden Island, La.	1 37
Cleveland, Tex.	1 27
Hardin, Tex.	1.15
Lafitte, La.	1 24
Livingston, Tex.	1 27
Welsh, La.	98
Tepetate (La.) (Jan. 4, 1937)	1 12

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Eastern States

TIDE WATER ASSOCIATED OIL CO.
(Effective December 1, 1937)

Bradford, Pa.	$2.20
Allegany, N. Y.	2.20

SOUTH PENN OIL CO.
(Effective December 1, 1937)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.20
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.88
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.82
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.70
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.27

PENNZOIL CO.
(Effective December 1, 1937)

Pennsylvania Grade Oil in National Transit Lines:	
Group A Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.15
Group B Includes Tidioute district.	2.14
Group C Includes Turkey and Tidioute districts.	2.13
Group D Includes Bear Creek and Porkey districts.	2.12
Group E Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.10

PURE OIL CO.
(Effective December 1, 1937)

Cabin Creek, W. Va.	1.82
Bradford Hollow, W. Va.	1.82
Kelly Creek, W. Va.	1.82

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	$1 25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich. (July 23, 1937)*	1 27
West Branch, Mich. (July 22, 1937)	1 09
Buckeye (July 23, 1937)	1.24¼
Arenac, Mich (July 1, 1937)	1.21
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River	1 42
Kentucky River	1 50
Western Kentucky	1 40

*Posted by Pure Oil Co.

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2 10
Oil Springs	2 17

TURNER VALLEY NAPHTHAS AND CRUDE OIL
(September 1, 1937, by Imperial Oil, Ltd.)

Clear naphtha and discolored naphtha, 65 gravity and higher	$2 36
Discolored naphtha and crude oil 40-40.9 gravity	1 38
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity	1 84

These prices f.o.b. producers field tank age.

*Imperial Oil, Ltd.

Mexico

Heavy Mexican crude	$.98

*In U. S. currency, f.o.b. ship, based on October spot market transactions.

Crude Oil Price Changes

Crude oil prices in the Pennsylvania Grade fields were cut 15 to 18 cents per barrel effective December 1. The Tide Water Associated Oil Co. and South Penn Oil Co. reduced Allegany and Bradford crude 15 cents, or to $2.20 per barrel. The South Penn Oil Co. reduced Pennsylvania Grade oil in Southwest Pennsylvania lines 17 cents, or to $1.88 per barrel; also Pennsylvania Grade oil in Eureka Pipe Line lines (West Virginia crude) 18 cents, or to $1.82; and Pennsylvania Grade oil in Buckeye Pipe Line lines (Southeast Ohio crude) 15 cents to $1.70 per barrel. Other purchasers met the changes in the fields in which they purchase oil.

Rocky Mountain Runs

Production estimates for week ended December 4, 1937:

	Bbls.
WYOMING	
Salt Creek	16,420
Big Muddy	1,330
Badger Basin	250
Black Mountain	190
Dallas Derby	560
Dutton Creek	60
Elk Basin	30
Frannie	2,110
Garland	2,740
Grass Creek	2,210
Hamilton dome	220
Hidden dome	320
Hudson	310
LaBarge	1,200
Lance Creek	12,760
Lost Soldier	1,240
Medicine Bow	5,190
Midway	60
Oregon Basin	3,970
Osage	760
Pilot Butte	20
Quealy dome	720
Rock River	3,100
South Casper	510
Poison Spider	330
Teapot	20
Wertz	330
Waugh dome	40
Total Wyoming	57,000
MONTANA	
Border	100
Cat Creek	570
Cut Bank	8,120
Kevin-Sunburst	4,990
Pondera	1,220
Total Montana	15,000
COLORADO	
Florence	230
Fort Collins and Wellington	200
Iles dome	2,640
Moffat	380
Orchard	30
Rangely	80
Tow Creek	130
Price	620
Total Colorado	4,310
NEW MEXICO	
Cooper	5,350
Eaves	1,040
Eunice	27,830
Hardy	1,430
Hobbs	16,280
Jal	1,220
Langlie	2,640
Lynch	670
Mattix	2,230
Monument	29,400
North Lynch	60
Penrose	4,260
Rhodes	130
Skelly	1,620
South Eunice	2,290
Vacuum	80
Artesia-Maljamar	6,810
Getty	200
Hogback	200
Rattlesnake	800
Table Mesa	90
Total New Mexico	104,850
Total Rocky Mountain region	181,160

Crude Prices by Gravities

	1 Oklahoma-Kansas	2 Oklahoma-Kansas	3 North and Central Texas	4 East Central Texas (Mexia district)	5 North Louisiana-Arkansas	6 Gray County, Texas	7 Hutchinson-Carson counties, Texas	8 Rodessa, Louisiana-Texas and Panola County, Texas	9 Conroe, Tomball, Raccoon Bend, (Deep) Satsuma	10 Gulf Coast	11 Gulf Coast	12 Lea County, N. Mex. West Texas except Pecos County	13 Mirando district, Texas	14 Marion County, Texas	15 Refugio, Greta, Saxet, Taft, Texas	16 Anahuac, Flour Bluff, Dickson, Turtle Bay	17 White Castle, Louisiana	18 Iowa, Louisiana	19 Cayuga, Texas
Bel. 18	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....	....	....	....	$ 90	....
18-18.9	....	....	....	....	....	....	....	....	....	.92	....	....	....	....	....	....	....	92	....
19-19.9	....	....	....	....	....	....	....	....	....	.94	....	....	....	....	....	....	$ 94	94	....
20-20.9	....	....	....	....	....	....	....	....	....	.96	$.95	....	$.96	....	$1.01	....	.96	96	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.98	....	1 03	....	.98	98	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1 01	....	1 00	....	1 05	....	1 01	1 01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1 04	....	1.02	....	1.07	....	1 04	1 04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1 07	....	1.04	....	1.09	....	1 07	1 07	....
Bel. 25	....	$ 98	....	....	$.90	....	....	$.93	....	....	....	....	....	$ 90	....	....	....	....	$ 88
25-25.9	....	1 00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	92	1.11	....	1 10	1 10	90
26-26.9	....	1 02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	94	1.13	....	1 13	1 13	92
27-27.9	....	1 04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	96	1.15	....	1 15	1 15	94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	98	1.17	....	1 17	1 17	96
Bel. 29	$1 06	....	$ 96	$1 03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1 08	1 08	98	1 05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1 00	1 19	....	1 19	1 19	98
30-30.9	1 10	1 10	1.00	1 07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1 02	1 21	$1 16	1 21	1 21	1 00
31-31.9	1 12	1 12	1 02	1 09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1 04	1 23	1 18	1 23	1 23	1 02
32-32.9	1 14	1 14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1 06	1 25	1 20	1 25	1 25	1 04
33-33.9	1 16	1.16	1 06	1 13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1 08	1.27	1 22	1 27	1 27	1 06
34-34.9	1 18	1 18	1 08	1 15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	1.29	1 24	1 29	1 29	1 08
Bel. 35	....	....	....	....	....	$.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1 20	1 20	1 10	1 17	1 12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1 12	1 31	1 26	1 29	1 29	....
36-36.9	1 22	1 22	1 12	1 19	1.14	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	1.33	1 28	1 29	1 29	....
37-37.9	1 24	1 24	1 14	1 21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	1.35	1 30	1 29	1 29	....
38-38.9	1 26	1 26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	1.37	1.32	1 29	1 29	....
39-39.9	1 28	1 28	1.18	1 25	1.20	1.06	1 01	1.23	1.42	....	1.39	1.06	1.34	1.20	1.39	1.34	1 29	1 29	....
40.over	1 30	1 30	1.20	1 27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	1.41	1 36	1 29	1 29	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Bay, Eason, El Dorado, Cities Service, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun Vickers and Wilcox.

Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.

Column 3—All purchasers.

Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co.

Columns 5, 6, 7 and 8—All purchasers.

Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tidewater Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)

Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)

Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.

Column 12—All purchasers.

Column 13—All purchasers (effective July 6, 1937).

Column 14—Magnolia Petroleum Co.

Column 15—Humble Oil & Refining Co. (effective July 6, 1937).

Column 16—Humble Oil & Refining Co.

Columns 17 and 18—Shell Petroleum Corp.

Column 19—Tide Water Oil Co.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ending Dec. 4 Sales	Week ending Dec. 4 High	Week ending Dec. 4 Low	Week ending Dec. 4 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114⅞	51½	3,400	56¾	51½	54½	Amerada Corp.	788,675	N.P.	50cQ	10-30-37	$2.00	125½	75	80	48½
37	18	8,500	21⅛	20½	21⅛	Atlantic Refining	2,664,000	$25	25cQ	12-15-37	1.25	35⅛	26⅝	28	20⅛
43⅜	10⅛	6,100	18	16⅜	17⅞	Barber Co.	387,149	$10	75c	12-16-37	.50	38½	21	22½	11⅝
35¼	10	13,200	14⅜	13⅛	14⅜	Barnsdall Oil Co.	2,247,974	$5	25cQ	11-1-37	.80	28¼	14⅛	14⅜	5⅞
17⅞	7	32,300	9¾	9	9⅝	Consolidated Oil Corp.	13,919,417	N.P.	20cQ	11-15-37	.80	17¼	11½	12¼	6½
49	24	22,600	31⅝	27	30¾	Continental Oil of Delaware	4,682,615	$5	25cQ	12-20-37	1.50	44⅞	28⅛	35	15⅛
17⅝	4¾	11,200	7¾	7⅛	7½	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	13⅞	6⅜	7	1½
35⅝	14	7,800	21½	19⅛	21½	Mid-Continent Petroleum	1,855,912	$10	$1	21-1-37	1.15	30⅞	17¼	20½	9½
34	15⅝	1,300	18	16⅝	17¾	Mission Corporation	1,399,345	N.P.	$1	6-15-37	.45	29⅞	16¾	17⅜	10⅝
26¼	19¼	11,700	23	10⅝	22¼	National Supply	382,591	$25	$2 pf.‡	12-22-37	....	75½	19⅞	20⅞	9
22⅞	9	18,700	12⅞	12¼	12⅝	Ohio Oil Co.	6,563,377	N.P.	50cSA	12-15-37	.60	18	12⅛	14¼	9¼
29¾	12⅛	1,000	14⅞	13¼	14⅜	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6¾
17⅛	7	300	9¼	9	9¼	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	.60*	20⅝	12¼	21	10¾
64	30⅛	34,600	41⅜	37½	41⅜	Phillips Petroleum	4,449,052	N.P.	75cQ†	12-1-37	2.50	52⅜	38⅛	40	13⅜
29⅞	13	5,400	19¾	18½	18½	Plymouth Oil Co.	1,050,000	$5	35cQ	9-30-37	.90	27⅜	11⅞	13	6½
24⅜	8¾	39,400	12⅜	11¼	11⅞	Pure Oil Co.	3,281,120	N.P.	....	9-1-30	....	24⅞	16	17	5⅞
6½	4⅛	8,100	5⅜	4⅞	5¼	Richfield Oil Corp.	3,986,638	N.P.	....	....	....	....	....	....	....
54⅛	16	4,400	23¾	20⅜	23	Seaboard Oil of Delaware	1,224,283	N.P.	25cQ	9-15-37	1.00	44	30½	36⅞	20⅜
34⅜	14⅞	4,400	17⅝	16⅝	17⅝	Shell Union Oil	13,070,625	N.P.	50c	12-20-37	.25	28¼	14¾	16½	5½
60⅝	26⅞	2,800	32½	29	31¾	Skelly Oil	1,006,348	$15	50c	9-30-37	....	47⅜	19½	20½	6½
23¼	13	44,700	16	14⅜	15⅝	Socony-Vacuum	31,151,071	$15	30c	12-15-37	.70	17½	12½	15¾	10⅝
50	28	19,000	31⅞	30⅛	30¼	Standard Oil of California	13,014,754	N.P.	80cQ†	12-15-37	1.20	47⅝	35	41⅛	27⅜
50	26½	18,100	34¼	32½	34¼	Standard Oil (Indiana)	15,196,241	$25	$1Q†	12-15-37	2.40	48½	32¾	33⅜	23
36½	30⅝	1,500	36	33⅞	36	Standard Oil of Kansas	134,841	$10	$1	12-26-36	1.00	31	25	32	20
76	42	49,400	46⅜	44⅛	45½	Standard Oil of New Jersey	25,856,081	$25	$1.25SA†	12-15-37	2.00	70⅜	51⅛	52⅜	35⅝
77½	48	800	49	48	48	Sun Oil	2,156,825	N.P.	25cQ	9-15-37	$1 & 6% Stk.	91	70	77	60½
7¾	1½	5,600	3	2¾	2¾	Superior Oil Corp.	1,388,079	$1	....	....	....	6¾	3	3½	1⅝
65⅛	34¾	51,000	42⅞	37¾	42⅝	Texas Corp.	10,896,858	$25	50cQ	1-2-38	1.50	55¼	28⅞	30¼	16½
9⅝	2	3,700	4⅛	3¾	4	Texas Gulf Producing Co.	888,134	N.P.	10c	12-23-37	.05	8⅞	4⅜	4¾	2½
16⅝	5⅜	10,800	8⅝	7¾	8⅜	Texas Pacific Coal & Oil	888,237	$10	10c	12-1-37	.25	15¼	7½	9¼	3¼
21⅝	13⅛	12,400	16⅜	14⅛	16¼	Tide Water Associated	6,288,512	N.P.	15c Spl.	12-17-37	.70	21¾	14¾	15⅞	7⅝
28¼	17½	4,300	21¼	20	20⅛	Union Oil of California	4,386,070	$25	55cQ†	11-10-37	1.00	28½	20¾	24	14⅝
31½	22	700	23	22¼	22¾	Union Tank Car Co.	1,200,000	N.P.	40cQ	12-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	1¾	500	2⅝	2¼	2⅝	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¼	2¾	3⅛	1

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock.

New York Curb Exchange

1937 High	1937 Low	Week ending Dec. 4 Sales	Week ending Dec. 4 High	Week ending Dec. 4 Low	Week ending Dec. 4 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21⅜	7	2,200	11	10	11	Bridgeport Machine Co.	260,000	N.P.	25c	9-30-37	$1.00	21	13¼	14⅛	3⅝
51½	37¼	400	39¾	37¼	39¾	Buckeye Pipe Line Co.	200,000	$50	75cQ	12-15-37	3.25	50	39¾	42½	30⅛
123	95½	150	96½	96	96	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-30-37	7.00	124¾	105	157	115
5⅜	1½	17,500	2¼	2	2	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	⅝
5½	1½	1,100	2⅛	2	2	Cosden Petroleum	399,687	$1	....	....	....	4½	1½	1½	¼
38¾	20¼	4,200	24¼	22¾	23¾	Creole Petroleum	6,974,356	$5	50cSA†	12-15-37	.50	39	19⅞	23¾	10
18⅝	6½	800	7⅝	7⅛	7½	Darby Petroleum	351,390	$5	25cSA	1-15-38	.50	18⅛	9	8⅞	4
8⅜	2¼	700	4	3¾	3¾	Derby Oil & Refining	263,162	N.P.	....	....	....	6¾	1⅞	2	⅝
47½	24½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	11-1-37	4.00	47½	38½	38	33¼
63½	33	10,000	39⅞	36½	38¼	Gulf Oil Corp.	9,076,202	$25	25cQ	12-1-37	1.50, 100% Stk.	59	36	74¾	50¼
87	54⅞	3,600	63	57½	62	Humble Oil & Refining	8,923,935	N.P.	62½cQ	12-27-37	1.50	80	57	64	44
24¼	14½	3,900	18⅛	17⅛	18⅛	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-37	1.25	24½	19¾	22½	15⅝
15	5⅞	No sales	..	..	..	Indiana Pipe Line	300,000	$10	50cSA	11-15-37	.80	9¾	5½	6⅛	3⅝
39½	23½	10,500	30¼	28½	28⅞	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-37	2.50	39⅝	32⅝	39¾	28
8¾	2⅜	600	3¼	3	3	Kirby Petroleum Co.	500,000	$1	10c	9-15-37	.20	5¾	2⅝	3	1⅞
34	12½	4,300	18⅝	16⅛	18⅜	Lion Oil Refining	270,000	N.P.	50cQ†	12-24-37	.75	17¾	7⅝	8⅛	3⅛
14¼	5¼	11,000	8	7⅝	7⅞	Lone Star Gas	5,382,723	N.P.	20c	12-22-37	.60	14¼	9⅞	10⅞	4½
15¼	7	13,500	7½	6¾	6¾	Louisiana Land & Exp.	3,000,000	N.P.	20cQ†	12-15-37	.50	15⅜	9⅞	11⅜	4⅝
14⅝	6¼	400	7⅜	7¼	7⅜	Midwest Oil Co.	998,444	$10	50c	12-15-37	....	....	..	..	..
7⅞	4⅛	800	4⅞	4⅝	4⅞	Mountain Producers	1,682,182	$10	30cSA	12-15-37	.60	8⅜	5	5⅜	4⅛
19½	12	5,400	14	13¾	14	National Fuel Gas	3,810,183	N.P.	25cQ	10-15-37	1.00	23	17⅜	20	11⅜
12½	7¼	700	8⅞	8	8⅞	National Transit	509,000	$12.50	55cSA	12-15-37	.75	15⅜	9¼	10⅝	6⅝
5	1⅛	No sales	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5⅜	4	400	4¾	4¼	4¾	New York Transit	100,000	$5	60c Spl.	12-28-37	.35	6¼	4¼	4⅞	3
12¾	5¾	No sales	..	..	..	Northern Pipe Line	120,000	$10	25cSA	12-1-37	.40	9¾	4⅞	8	5⅛
9⅝	2¾	23,100	5⅜	4¾	4⅞	Pantepec Oil	1,608,700	N.P.	....	....	....	10⅛	3¼	4⅜	1¼
13¾	2	1,500	3	2⅞	3	Root Petroleum Co.	336,045	$1	25c	2-1-37	.50	19¼	4½	5	1½
6½	2¼	100	3¼	3¼	3¼	Ryan Consolidated	296,931	N.P.	....	....	....	4¾	1⅞	2½	⅝
7¼	3⅞	200	4½	4½	4½	Southern Pipe Line	100,000	$10	25cSA	9-1-37	.25	7⅞	3¼	5	3⅞
56	35	3,100	38	35¾	38	South Penn Oil	1,000,000	$25	$1.15Q†	12-28-37	2.60	44	32½	34½	21⅝
42	20	No sales	..	..	..	South West Penna. Pine Lines	35,000	$50	50cQ	12-31-37	13.00	60	44	56	44¼
21⅛	14¾	1,900	18⅛	17⅛	18⅛	Standard Oil of Kentucky	2,604,790	$10	40cQ†	9-15-37	1.35	23⅜	17⅛	24	18
13¾	8	200	9	9	9	Standard Oil of Nebraska	188,403	$25	25c	3-29-37	.25	14⅝	11	12	7⅝
45	16	400	23½	23	23¼	Standard Oil of Ohio	753,740	$25	75cQ†	12-15-37	2.00	40	21⅝	23⅝	11½
4⅞	2	3,700	3	2⅞	3	Sunray Oil	1,910,119	$1	10c	12-24-37	.10	5	2⅝	2⅞	⅞
7⅝	2	1,000	4⅜	4⅜	4⅜	Texon Oil & Land	336,028	$2	15cQ	1-3-38	.60	9⅜	5⅜	6⅞	5
13⅝	3	29,000	5⅝	5	5⅝	United Gas Corp.	7,818,959	$1	10c	9-15-37	.20	10¾	4	4⅞	⅞

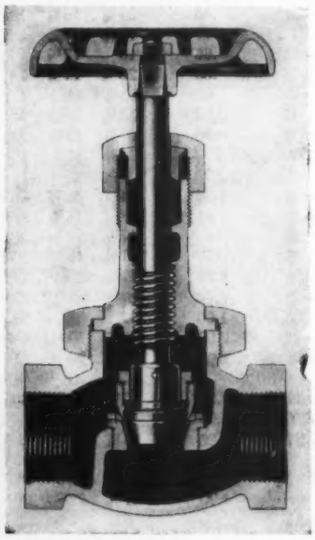
†Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Extreme Hardness of Plug-Type Valve-Seat Gives Long Life

Jenkins Brothers, 80 White Street, New York, have announced their figure 976 plug-seat valve, featuring a plug and seat ring made of Jenkins



JX500, a stainless steel having a Brinell hardness in excess of 500. This valve is specially recommended for severe service, such as continuous throttling for pressure-reduction or free blow duty such as soot-blowers, injectors, heating-coils, or any steam line where close regulation is required. Jenkins states that the JX500 plug and seat almost eliminate wear and the danger of wire drawing and cutting.

The company answers the question "How hard is 500 Brinell?" by comparison with the hardness of some substances that get into pipe lines. It lists boiler-scale, pipe-chips, welding-heads, rust tubercles and iron oxides as under 500 Brinell, and therefore not able to scratch this new Jenkins valve-seat. By contrast, a common nail is shown to be under 200 Brinell hardness.

Bulletins, Booklets and Other Literature for the Trade

Designers and builders of all types of equipment used in the oil fields will be interested in the 52-page supplement to the Timken Engineering Journal. This supplement, punched for filing in a standard binder, describes and illustrates the various applications of single- and double-row bearings.

The Wheelco Capacitrol, designed for closer temperature control, is the subject of an eight-page bulletin offered by the Wheelco Instruments Co., 1929 South Halsted Street, Chicago.

Castings for valves and fittings for pressure service are discussed in the latest number of Ladle Sparks, published by the Sivyer Steel Castings Co., Milwaukee and Chicago.

A bulletin issued by the Lane-Wells Co. announces the extension of Anderson well-survey service to Mid-Continent fields. Another bulletin gives information concerning the Anderson photo-record go-devil, and a third describes and illustrates the Anderson small photo-record magnetic single-shot survey instrument.

The current number of Heat Engineering, published by the Foster Wheeler Corp., 165 Broadway, New York, contains much of interest to the refiner. Articles include "Bottoms Recirculating System," "Trinidad—Past, Present and Future," "Refinery Cooling-Towers" and "Heat-Exchangers for the Oil Industry."

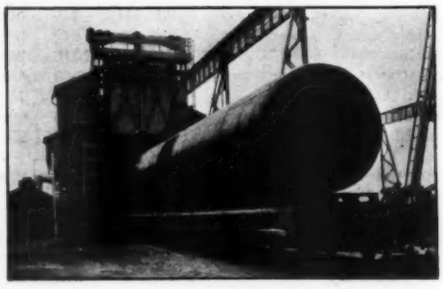
The Cooper-Bessemer Corp., Mount Vernon, Ohio, and Grove City, Pa., has prepared for distribution a 20-page booket, in colors, describing and illustrating the type 12 gas-engine-driven compressor for use in gasoline plants.

The current issue of the Moly Matrix, published by the Climax Molybdenum Co., 500 Fifth Avenue, New York, tells why molybdenum steel is successful in difficult service.

Sweetening Plant on Wheels Is Driven to Door of Refinery

A "sweetening plant on wheels" enables Perco, Inc., of Bartlesville, Okla., to demonstrate the merits and economies of the Perco copper sweetening process on the home grounds of interested refiners and natural gasoline manufacturers. A pilot copper sweetening plant has been installed in an especially built, all-steel trailer about the size of an ordinary house trailer. The plant is an exact duplicate of commercial sized units, complete in every detail, and is capable of sweetening between 25 and 40 bbls. of gasoline each 24 hours. The interest already shown in this novel miniature plant and the number of requests received for its services indicate that it will be kept busy.

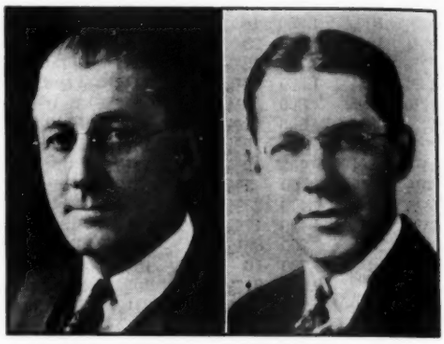
This test plant can be driven right to the refiner's door, tied into his gasoline stream just before it goes into his present sweetening equipment, and proceed to process his product under identically the same conditions as does his present equipment. Analyses of samples for comparison then can be made for color, color stability, gum, induction period, degradation of octane rating, lead susceptibility, tetraethyl lead savings to specified octane number and any other tests required locally for an economic comparison.



Two of three tanks fabricated and stress-relieved at the Birmingham, Ala., plant of the Chicago Bridge & Iron Co. for an oil refinery in Baytown, Tex. These tanks, 10 feet in diameter and 29 feet 8 inches long, are designed for a working pressure of 100 pounds per square inch.

Shifts in Official Personnel Are Announced by "Caterpillar"

Five changes in the organization of the Caterpillar Tractor Co. have been announced by President B. C. Heacock. C. Parker Holt turns over the



A. T. Brown *L. B. Neumiller*

office of executive vice president to A. T. Brown, formerly vice president generally administering the accounting, treasury, traffic and parts de-

D. G. Sherwin *D. A. Robison*

partments. Mr. Holt returns to the San Leandro, Calif., office, where, as vice president, he will direct activities there and coordinate the work of the several departments with the headquarters of those departments in the Peoria offices.

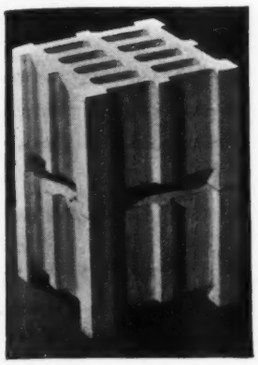
Two new vice presidents have been elected. L. B. Neumiller, formerly director of industrial relations, is now vice president generally administering the parts, service and traffic departments. D. G. Sherwin has been advanced from treasurer to vice president generally administering the advertising, sales and treasury departments. D. A. Robison, formerly assistant treasurer, has been elected treasurer to succeed Mr. Sherwin.

Protects Eyes From Snow Glare

The Skybryte Co. of Cleveland, Ohio, has announced a new product, Snopake, to reduce the glare experienced by workers in buildings adjacent to open fields where large expanses of snow are present. The product is a pale-green adhesive liquid that can be brushed or sprayed on windows. The manufacturers say it admits over 90 per cent of the light yet reduces it to softly diffused illumination. Snopake is applied to the inside or outside of the window and remains until removed with hot water and a stiff brush.

Ceramic Packing of New Type Offers Important Features

Recognizing the need for a more efficient method of washing, reclaiming and cooling gases, the General Refractories Co., Philadelphia, Pa., has designed and patented a new type of ceramic packing to which it has given the name GRCO drip-point grid tile. The new product is really a system of ceramic packing made to meet the exacting requirements of gas-washers, scrubbers and cooling-towers.



The illustration shows the design and general features as well as how one tile is set on top of another when building up a complete unit. The drip-point feature permits maintenance of a uniform film of washing or cooling liquid over the entire surface of the packing.

The tile is manufactured in the company's Acido brand, a dense and acid-resisting fire-clay brick possessing high physical strength. It is non-absorbent, rigid—and being a refractory, eliminates the fire hazard. It eliminates guesswork in determining the gas channeling effect created, and the required scrubbing surface can be predetermined exactly. When installed it becomes a self-supporting structure.

Indented paneling on all sides provides maximum effective surface. The drip-points on the under surface insure a continuous uniform film of the washing medium over all the gas-washing surface. The washing liquid drains from one tile by dripping to the tile below, thus bringing the entire surface of the packing into use. The location of the drip-points makes it impossible for liquid to bypass any portion of the packing.

Maximum washing surface is afforded without sacrifice of strength. When built up, one tile upon another, the legs create a space between the tiles through which the washing liquid drips and flows freely. These spaces also create a perfect balance of gas pressure, eliminating the possibility of flue action to cause the gas to channel or bypass any particular section of the packing.

Here and There With Men Who Manufacture Equipment

The Larkin Packer Co., Inc., St. Louis, Mo., manufacturer of oil-field equipment, has appointed C. W. Woodward sales representative in the new Illinois field, with headquarters in Salem. U. S. Akin will represent the company in extreme West Texas and New Mexico, with headquarters in Monahans. William Fredericks will operate in the Texas Panhandle, working out of Lubbock. Larkin is installing a warehouse at Great Bend, Kans., to be supervised by Bill Baumann, assisted by Ollie Holmes, warehouseman.

The Paramount Equipment Co., of Tulsa, has placed C. L. Forcum, formerly of Casper, Wyo., in charge of its Texas division, with headquarters in Dallas. Mr. Forcum formerly represented the company in the Rocky Mountain states, and his appointment to the Texas territory follows the announcement of plans to improve the distribution and service of the Paramount specialties line.

The Well Equipment Manufacturing Corp., Houston, Tex., has moved E. L. Oliver from the Houston territory to Oklahoma City to cover the Oklahoma-Kansas division. Earl Grissom has been recently moved from the upper Mid-Continent territory to Corpus Christi, to cover the South Texas division, replacing Ralph Walker, who goes to Odessa in charge of the West Texas-New Mexico area. O. W. Sanders is being transferred from Odessa to Tyler to cover East Texas.

W. E. Wechter has been made manager of oil and gas engine sales in the Atlantic division by the Worthington Pump and Machinery Corp. Mr. Wechter succeeds R. L. Howes, recently resigned.

O. B. Albritton, formerly with the Frick-Reid Supply Corp., in Wichita Falls, Tex., is now district manager for the Mid-Continent Supply Corp., with headquarters in the City Bank Building, Wichita Falls.

The American Iron & Machine Works Co. has appointed Edward A. Culbertson its California representative. Mr. Culbertson has been with the company, located in Shreveport, La., for the past three years. His office will now be in Los Angeles.

The Service Supply Co., Greggton, Tex., has established a store at Rotan, Fisher County, Texas, with Joe Gunn in charge.

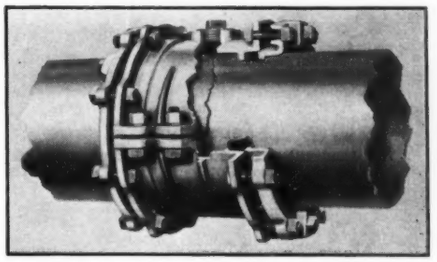
Clark Brothers Co., Olean, N. Y., reports that the Iraq Petroleum Corp. has ordered three additional 300-horsepower Clark balanced opposed electric-driven compressors for its crude stabilization plant located at Kirkuk, Iraq. The first of these machines will start on its 8,000-mile journey within the next few weeks.

Field Supervisor For Billings

The Billings & Spencer Co., of Hartford, Conn., has appointed Jack Hagar field supervisor for its merchandise tool division. Mr. Hagar is well known in the industrial supply field, particularly in the Southwest, Midwest and East. His training and experience cover 14 years as a manufacturers representative and five years as an industrial distributor representative. The tool sales organization now consists of 11 field representatives, supervision of whom is a part of Mr. Hagar's duties.

Sleeve Is Designed for Prompt Repair of Pipe-Line Breaks

For enclosing breaks and holes up to 8 inches long in the straight run of cast-iron pipe the S. R. Dresser Manufacturing Co., Bradford, Pa., is offering its style 57 repair sleeve in sizes from 2 to 12 inches C.I.P. inclusive. This type holds a maximum working pressure of 250 pounds per square inch.



Longer splits can be repaired by joining two or more of these sleeves.

Another type of split sleeve, made specially for repairs to broken or split bell-and-spigot joints, is the style 26, which completely encloses the damaged joint.

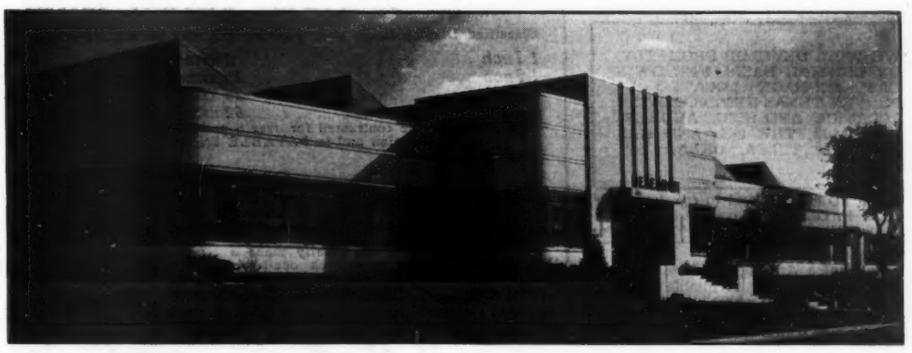
Steel pipe and joints take a special series of repair sleeves, the three Dresser types being style 52A, for enclosing screw collars, circumferential welded joints, and defective pipe, up to a maximum working pressure of 500 pounds per square inch; style 73, for the same purpose, except for 250 pounds maximum working pressure; and style 54A, for enclosing bolted joints of various types up to pressures of 500 pounds per square inch or less.

According to the makers, these sleeves designed for quick repair of winter pipe-breaks, permit full or part service while the repair is being made; can be installed under any weather or ditch conditions, even under water; are easy to handle because they are cast from lightweight, high-strength metals; require only a wrench and a few minutes to install; and provide flexibility to prevent repetition of the break. Another advantage claimed is that the repair is permanent.

Inferno safety valves are the subject of a bulletin announced by the Inferno Co., Shreveport, La.

ARMCO DEDICATES NEW RESEARCH LABORATORIES

More than 200 scientists were guests of the American Rolling Mill Co. at the recent dedication of its new research laboratories in Middletown, Ohio. "Research is what keeps industry healthily dissatisfied with itself," said Charles F. Kettering, vice president in charge of research of the General Motors Corp., in his dedicatory address. George M. Verity, chairman of Armco's board, and Charles R. Hook, president, were other speakers. Dr. Anson Hayes, Armco's director of research, was toastmaster at the banquet which closed the day's program.



Research specialists have termed the new laboratories "the most modern in the industrial world." The building, costing $280,000, represents the first use of steel walls on a large scale. Porcelain enamel, stainless steel and glass block form the exterior. A total of 8,100 feet of porcelain enamel was used for exterior facings.

The building has a frontage of 255 feet and a depth of 175 feet, providing 43,500 square feet of floor space. It is a sawtooth type with welded steel frame construction of new design. Not a rivet was used. A solid concrete wall, 4 feet underground and 1 foot above, forms the foundation. Structural steel is anchored to concrete piers.

Oil Man's Calendar

December

14—Tulsa, annual meeting of directors of Mid-Continent Oil and Gas Association.

17—Los Angeles, Calif. California Oil and Gas Association, Wildcat Christmas Jinks and banquet, Biltmore Bowl.

30-31—Austin, Tex. Eleventh biennial convention Sigma Gamma Epsilon, honorary geological fraternity, University of Texas.

1938

January

13—Oklahoma City, Independent Oil Jobbers Association of Oklahoma.

17-21—Cleveland, Ohio, American Road Builders Association.

24-25—Minot, N. D., Northwest Petroleum Association, North Dakota Division.

27-28—Minneapolis, Minn., Northwest Petroleum Association, Minnesota Division, Hotel Radisson.

February

7-9—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel

14-18—New York, American Institute of Mining and Metallurgical Engineers, annual meeting, Engineering Societies Building.

22-24—Columbus, Ohio, Ohio Petroleum Marketers Association, fifteenth annual convention and marketing exposition, Deshler-Wallick Hotel.

March

2-3—Indianapolis, Ind., Indiana Independent Petroleum Association, spring meeting.

7—Rochester, N. Y., American Society for Testing Materials, Spring Regional Meeting and Group Committee Meetings.

16-8—New Orleans, twenty-third annual meeting American Association of Petroleum Geologists, Roosevelt Hotel.

24-25—Fort Worth, Tex. American Petroleum Institute, Division of Production, spring meeting, southwestern district, Blackstone Hotel.

April

13-15—Cleveland, Ohio, National Petroleum Association.

13-15—Houston, Tex., Petroleum Industry Electrical Association.

17-21—Dallas, Tex., American Chemical Society.

20-22—Buffalo, N. Y., American Institute Mining and Metallurgical Engineers, Open Hearth Conference.

May

14-21—Tulsa. International Petroleum Exposition.

23-25—Wichita, Kans. American Petroleum Institute, eighth midyear meeting.

(?)—New Orleans, La. American Gas Association, Natural Gas Department.

(?)—Tulsa, Okla., Natural Gasoline Association of America.

June

6—Houston, Tex. Oil Workers International Union.

16-18—Pittsburgh, Pa. Pennsylvania Grade Crude Oil Association.

New York Market

(Continued from Page 119)

tureless, except for the volume which increased somewhat last week in keeping with a return of milder temperatures during the first four or five days. Scattered reports from outlying marketing districts indicate that Thanksgiving travel by automobile was on a comparable basis with that in New York. Based on tolls paid at main New York arteries of egress and ingress, Thanksgiving was the best in history from a gasoline consuming standpoint. Nearly 2,000 more automobile drivers paid tolls to and from New York this Thanksgiving than on the same day in 1936.

Retail prices in Greater New York remained unchanged at 95 cents for 5 gallons of regular gasoline. Also unchanged were prices in other metropolitan areas and for most of the points within a radius of 200 miles. Fluctuations continued in the northern New Jersey gasoline market, but the movement up and down was slight and the few changes did not materially alter the average, which in some parts is 2 to 3 cents per gallon below the market prevailing in New York.

Diesel fuel oil remains unchanged at deep water terminals and shore plants. The current prevailing price in New York harbor to the marine trade is $2.20 per barrel.

The crude scale wax market has shown no change of importance for the past several weeks. Occasional open market transactions are reported at prices ranging from 2.85 to 2.95 cents per pound for 124-126 a.m.p. white scale.

CLASSIFIED ADVERTISING

Leases and Drilling Blocks

New Texas Oil and Gas Leases. Large or small tracts for brokers and salesmen. State requirements. H. H. WHITE, P.O. Box 674, San Antonio, Texas.

SECURITY ABSTRACT COMPANY
El Dorado, Arkansas
Fee, Lease & Mineral Ownership
on short notice. Ownership maps.

Specializing leases twenty acres up dollar acre, East Tex., La., S. Ark. Owners—Attorney, Box 1122, Little Rock, Arkansas.

"FARM-OUTS" IN PROVEN AREAS

Wish to contact responsible operators and drilling contractors able to take over immediate drilling of several leases in Permian Basin fields—depths 1,600 to 3,500 feet—allowables up to 75 barrels daily—Please give information as to financial ability when replying — Address "Land Dept," Box J-152, The Oil and Gas Journal. Tulsa, Oklahoma.

WE WILL DEVELOP PROMPTLY, ON LIBERAL BASIS, FEE OWNERS' ACREAGE LOCATED IN PROVEN TEXAS FIELDS. ADVISE LOCATION AND SIZE. ADDRESS BOX J-172, THE OIL AND GAS JOURNAL, TULSA, OKLA.

WANT TO BUY—Land in fee, leased or unleased in Okla. or Texas. Address Box J-173, The Oil and Gas Journal, Tulsa, Okla.

NEW MEXICO

Three choice drilling blocks in Southeastern New Mexico. Available geology and well logs warrant a test on each block. Want to make contract with reliable parties for test wells. Will not consider an outright sale. Also have leases and spreads around drilling well for sale, at Five to Fifteen Dollars per acre. Chas. E. Logan. 418½ N. St. Paul St., Dallas, Texas.

OWN 5,000 ACRES leases on 10 mile anticline. Oil in 3 wells drilled to Ste. Genevieve, 300 feet. Correlates Illinois. Structure listed on state map. ½ interest and two wells completed, $800.00. Box 93, Burnside, Ky.

DRILLING DEAL WANTED

40 Acres in the Clay City Field, with production on four sides. Address Box J-170, The Oil and Gas Journal, Tulsa, Okla.

Leases and Drilling Blocks

WANT someone to handle some Real Estate papers draw ten per cent interest. For sale half interest in four hundred thousand dollars worth of Real Estate. Fifty-five thousand dollars cash. Charlie Priolo, 2301 W. 6th St., Amarillo, Texas.

INDEPENDENT PRODUCER owns proven leases in shallow and deep sand areas West Texas and New Mexico. Need cash for development. Dr. T. J. Jefferies, Box 115. Kermit, Texas.

FOR SALE by owners, ten year paid up oil and gas lease, corners Llano, Gillispie, Blanco counties, Texas; 3958¾ acres at $1.00 per acre. L. J. Smith, 321 Piedmont St., San Antonio, Texas.

Leases and Drilling Blocks

BIG MONEY PLAY. K.M.A. to Bryson trend. Deep wells drilling or located. Buy protection leases before you regret. Write Trustee, Box 636, Olney, Texas.

FOR SALE—Oil producing leases with many locations yet to drill, leases for sale near production and wildcat leases for drilling contracts.
W. P. HARLEY
Bowling Green, Ky.

New Mexico OIL LEASES WHOLESALE
40 acres at a time.
Roy G. Barton, Clovis, New Mexico.

South Florida Oil Fields.
Wanted, Drillers for new oil well site.
J. B. Blanchet, Fort Myers, Florida

Leases and Drilling Blocks

HELP to drill test well Illinois Basin. I have rig, pipe, leases and geology. Give half for fuel and labor money. A. M. Masters, Murrayville, Illinois.

For Sale—Maps

SUCCESSFUL OIL OPERATORS
Are Using
ZINGERY OIL MAPS
Our Up-to-date Lease and Fee Ownership Maps of Counties and Combination Development Maps Save Time and Money.
WRITE FOR DESCRIPTIVE FOLDER

1937 Revised Edition Map of State of Texas, eastern N. M., parts of southern Okla., SW Ark. and La. shows Oil and Gas Fields in color, Counties and County seat and elevations, co-ordinated alphabetical index of fields and counties.
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Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER

Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to any one, send for blank form:
"Evidence of Conception."
Instructions "How to Establish Your Rights" and complete information FREE
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Washington, D. C.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30
4 Lines	1.40	2.40	3.40	4.40
5 Lines	1.75	3.00	4.25	5.50
6 Lines	2.10	3.60	5.10	6.60
7 Lines	$2.45	$4.20	$5.95	$7.70
8 Lines	2.80	4.80	6.80	8.80
9 Lines	3.15	5.40	7.65	9.90
10 Lines	3.50	6.00	8.50	11.00

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma